

T H E
Complete Grazier:
O R,
Gentleman and Farmer's Directory.

C O N T A I N I N G

The best Instructions for buying, breeding, and feeding Cattle, Sheep and Hogs, and for suckling Lambs.

A Description of the particular Symptoms, commonly attending the various Distempers to which Cattle, Sheep, and Hogs are subject; with the most approved Remedies.

Directions for making the best Butter, several Sorts of Cheese, and Renner.

Different Methods of stocking a Grass Farm, with the particular Expence and Profit of each.

How to prepare the Land, and sow several Sorts of Grass Seeds to Advantage.

Directions for raising proper Fodder for Cattle and Sheep.

Particular Instructions for ordering, breeding, and feeding, Poultry, Turkeys, Pigeons, Tame Rabbits, Geese, Ducks, Bustards, Pea-fowls, Pheasants and Partridges.

Also Directions for making Fish Ponds or Canals, and for storing them, and ordering the Fish in the best Manner.

With several other useful and curious Particulars.

*Written by a COUNTRY GENTLEMAN, and originally
designed for private Use.*

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C O N T E N T S.

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T H E

Complete Grazier, &c.

C H A P. I.

Of the BULL, Cow, and Ox.

 THE best oxen and cows are bred in the counties of York, Derby, Lancaster, Stafford, Lincoln, Gloucester, and Somerset, both for largeness and neatness of shape. Those bred in Yorkshire, Derbyshire, Lancashire, and Staffordshire, are generally black, with large well spread horns. Those bred in Lincolnshire are, for the most part, pied, very tall and large, and most fit for labour. Those bred in Somersetshire and Gloucestershire are generally red, and for shape much like those of Lincolnshire. Wiltshire breeds large cattle, but ill-shaped



shaped horns and heads. In some parts of Surry there is a white sort of cows, that, it is reported, produce the richest milk, and their flesh more readily receives salt than any of the other.

As the males of all creatures are the principal in the breed and generation, therefore great care ought to be taken in the choice of the bull, which, for curious shape, should be as follows:

He should be of a quick and sharp countenance; his horns large and white; ears rough and hairy; forehead broad and curl'd; eyes black and large; jaws large and wide; nostrils wide and open, lips blackish; dew-lap extending from his nether lip, down to his fore-booths, large, thin and hairy; shoulders broad and deep; ribs large and broad; belly long and large; neck fleshy; back strait and flat, even to the setting on of his tail, which should stand high, be of a good length, and bush hair'd; huckle bones round, making his buttocks square; thighs round and well truss'd; legs strait, short jointed, and full of sinews; knees round, big, and strait; feet far one from another, not broad, nor turning
in,

in, but easily spreading; hoofs long and hollow; hide not hard or stubborn in feeling; and the hair of all his body thick, short, and soft as velvet.

The cow with the following marks is most worthy our esteem :

Stature high; horns well spread, fair and smooth; forehead broad and smooth; body long; belly round and large; udders white, not fleshy, but large and lank, with four teats and no more (such a one will prove good to the pail) and almost all other tokens that are required in the bull; and particularly to be young, for when they are past twelve years old, they are not good for brood: but they often live much longer if their pasture be good, and they kept from diseases.

The cow should be chosen of the same country as the bull; and as near as you can of the same colour.

C H A P. II.

Of KINE.

THERE are three sorts of kine in England, which are remarkably different in their colour, and other particulars, viz. the black, the white, and the red.

The black sort is commonly the smallest, and, it has been observed, is the strongest for labour. It is remarkable, that the cows of this colour yield seldom more than a gallon of milk at a meal, but continue milch till within a very few days of calving; whereas the white and red will, after calving, give large meals of richer milk, near three times as much as the former, but grow dry much sooner.

The white breed of kine were, some time ago, very frequent in Lincolnshire, from whence a gentleman brought them into Surry as a curiosity: they are of different make, and much larger than the black cattle, give more milk at a meal, but grow dry the soonest of the three:

three: many of this breed were then in Suffolk.

The red kind is commonly the largest of any sort we have in England, and, for the generality, do give more and richer milk at a meal than those of other colours, and bring better calves too; which any farmer, who shall be wise enough to keep the genuine red sort from mixing with any other, will certainly find, to his no little emolument, notwithstanding the contrary has been maintained. It is therefore advisable, when the milk is for dairy use, to keep a deep milched red cow, to calve about the end of March or beginning of April, that she may become to her milk just when the spring is coming in, and the grass is full of vigorous and nourishing spirits, which will greatly add to the quantity of milk she will give at a meal.

But when a cow calves about October or November, the calf may be brought up for increase; the milk then being not so fit for the dairy, the calf will be more hardened against distem-

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pers,

pers, and thrive by the nourishing food of the following spring, and be much more gentle and familiar than if he had at once fallen in with plenty at his birth.

The Dutch cows are very good for the pail, giving as much milk as two ordinary English ones, being a large sort, much like an ox, but ill shaped heads and horns; they commonly bring two calves at a time.

The cow that gives milk longest is the best for the dairy and breed, for those that go long dry are not so teeming: and the younger the cow, the better the breed.

You must every year in these beasts (as in all others) sort their stock, that the old which are barren, or unfit for breeding, may be put away, sold, or fed for the butcher. Their age is known by the knots or circles of their horns. Under three years old you must not suffer them to go to bull; if they chance to be with calf before, you must put the calf from them, and milk them for three days after, lest
their

their udders be fore; afterwards forbear milking.

The best time for going to bull, some take to be in the spring. In many places they desire to have their cows go to bull about the end of July, that they may calve in March or April. To order them so, as that they may have plenty of milk, let the kine go to bull from the spring to winter, whereby you may always milk some.

A cow commonly conceives at once bulling; but if she chance to fail, she goes to bull again within twenty days after.

Twenty cows are now generally allowed to one bull.

A bull ought not to be suffered to serve above two cows in a day.

You must see that your cows be not too fat when they go to bull, or during their pregnancy; for which reason it is best to keep the cow in short pasture, while she goes with calf, but no pasture can be too good for the bull, to make him strong and vigorous.

A milch cow may have too much meat; for if she grows fat, she'll

go to bull the sooner, and give less milk; and if a cow be fat when she calves, she is in danger, and the calf will be the less.

A cow will give suck to a strange calf; but let not the calves lie with them in the night, for fear of over-laying them.

If a farmer depends much upon his dairy, he should in the month of August examine which cows are growing low in milk, and sell them off for fresh cattle.

C H A P. III.

Of the Pasture and Food of Cows; and how much the Goodness of their Milk may be influenced thereby.

AND first, we may reasonably suppose that the juices of every herb are fuller of spirits, and more nourishing, when they are in the vigour of their growth, than when the cold puts a stop to their vegetation; therefore the milk of kine cannot yield that nourishment when the cows feed on herbs out
of

of growth, as it will do when herbs are springing.

Secondly, When a cow feeds where crow garlic happen to grow amongst the grass, the milk will assuredly partake of the relish of the garlic: and the plant called alliaria, or sauce alone, affects the milk in such a manner, that the butter made thereof will always be rank.

Thirdly, at the time of the year when the leaves fall, we find that the milk of those cows which feed upon them is bitter, and very apt to turn or change; so that we may reasonably suppose that the falling leaves have an influence over their milk.

Fourthly, About Autumn it is customary about London to feed the cows with turneps of a large kind; and these are used in many places with indiscretion, by giving the cows both the leaves and the roots, as they are fresh drawn from the field; the milk in this case will likewise be bitter. But some farmers, who are a little curious in the food of cows, have the leaves cut from the roots, and let them lie some time together (two or three days perhaps)

haps) before the cows eat them, and then they observe the milk is not bitter.

With these turneps, and some other greens, are cows often fed in winter, when grass is scarce about London, to keep them full of milk; but these herbs are too full of juice for the health of the cows, and therefore the other part of their food is hay, commonly of the coarsest sort, that is made in orchards, growing rank under the trees, which is generally four; or such as is made of grass of a second spring. But I find, by experience, that the *best hay* is the best for cows; it nourishes in the winter, makes them strong, and keeps them in milk, provided the cows are turned in the warmer part of the day into grass, especially such as had dung spread over it about the end of August, before the rain falls.

It has been pretty well experienced, that good grass of the spring, or hay made of grass in its excellence, will give so much strength to the kine that feed upon it, that the advantage of the milk will very well pay the expence,

pence, as it will be better tasted, and much richer; for where the diet is good, the body will be strong, and in this case will yield abundance of milk, which will be both sweet and full of cream, and consequently of good use in the dairy.

In Lincolnshire and other counties, where the cattle are fed in marshes, we find them grow to a very large size; but we remark, that these marshes are rather used for oxen than cows; however, where cows have an opportunity of such food, and are of a large kind naturally, their milk makes much fatter butter, than that of those which are fed upon short grass; for proof of which we might instance Holland, where, according to my observation, is found the fattest or richest butter in Europe, and there the cows feed in salt marshes.

It is to be remarked, that some grounds will never produce good butter, and others will not produce good cheese, though there is the best management in the dairy. Again, there is one sort of cattle, which, though we feed them in the finest grass, and best pasture,

pasture, will never yield a rich milk; while, on the other hand, there are some sorts of cattle which will yield a rich milk for butter in any pasture. Again, the milk of one cow shall give richer and better butter than the milk of others, though they all feed on the same pasture, even so that the milk of one cow will cover or enrich the butter made from nine or ten other cows; her milk will make butter of a rich yellow colour, full of fatness, and the others, will only produce a pale lean butter, but all together will be good; I know several instances of this, and every one who is skilful in a dairy may observe it.

It is likewise to be observed, that though long rank grass which grows in orchards, &c. feeds well, and makes cattle abound in milk, yet the milk of such cattle will not be so rich, nor carry near so much cream in proportion, as the milk of those cattle which feed upon short fine grass; nor will the butter made thereof be near so good: and these different sort of pastures ought principally to be considered by a farmer,
before

before he appoints what shall be done with his milk, or sets out his dairy : and if the feed should produce only a thin sort of milk, but in good quantity, then to use it in the suckling of calves, if they have not a call for it immediately in the pail, in which manner it will produce a sufficient profit near London, or any other very populous place.

If what is before related be duly considered, we may plainly perceive that soil, grass or herb, and the nature of the kine must first be exactly taken care of: and when these all concur, I find the London markets will give fourpence or five-pence more for a pound of butter, than it would bring if it wanted any of these helps : so that butter well made cannot fail of raising as much money as will gratefully reward the care and industry of the farmer.

Proper Fodder for Cows.

In December, or sooner, you may give them grains; or turneps (observing
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ing the directions in page 9), and some good hay besides ; or clover, or saint-foin hay, mixing them with barley straw : or you may give cows the haulm of buck wheat, and pease straw : all these will make them full of good milk, the cream of which will produce sweet butter, not liable to change in a few hours, as cabbage feeding will always make it, and is the chief cause that so much bad butter is made and sent to market all the winter long.

C H A P. IV.

Directions how to rear CALVES for Breed, Labour, or Feeding.

CALVES may be bred these two ways : the one to let them run with their dams all the year, which makes the best calves, but is not so profitable, as losing the cow's milk : the other, to take them from their dams after ten or twelve weeks ; but for a fortnight before you wean them, let them have some water put into milk lukewarm to drink : then they
are

are fit, if in the spring or summer season, to put out to grass, which must be short and sweet, by no means rank. But if in the winter season, to be fed with fine sweet and soft hay, which should be put into low racks, that they may learn to feed thereon. And it were not amiss to house your calves, the first winter, in the cold nights.

Some wean them after the first sucking, and bring them up by hand, till they are able to feed, with flit milk or whey made only luke warm, (for to give it them hot is very dangerous) having a little bran in it, or flour.

Whether you design to raise them for breed, labour, or feeding, you must not let them want for store of good pasture; for if their pasture be scanty at first, they will never come to be of a large growth.

Those calves that are calved in four or five days after the change of the moon, are not good to rear, so sell them off to the butcher; and the best time to rear calves is from Michaelmas to Candlemas. (Fitzherbert says, between Candlemas and May. And
Bradley

Bradley, that in March or April they will make the strongest cattle).

Those male calves that you intend for oxen, the best season to geld them in, is the old of the moon, and when they are fifteen or twenty days old, for then there is least danger; and the ox is said to be higher, and larger of body, and longer horned. He must not be suffered to drink the day he is gelt, but nourished with a little meat. For three days after he must be dieted according to his weakness, with the young boughs of elm, and sweet grass cut for him; and care must be taken that he drinks not too much.

You must use them while they are young to suffer to be handled and stroked, and tied to up to the manger, that when they come to be broke they may be handled with more ease and less danger.

Those calves which you design for the yoke should not be broke before they are three years old, for fear of overstraining them; nor after five, being then too stubborn to yield to the yoke.

The

The feeding of calves for veal is profitable enough, as they may sell at nine or ten weeks old to the butcher for 50s. or 3l. at a London market; and that the farmer can make some little profit then of his milk, in cheese or otherwise.

In the fattening of calves for veal the Essex way, the following particulars are generally observed, viz. That the calf be kept cool and dry; that their suckling times be never neglected, but that they daily have their milk given them at the same hours.

Again, they must not be suffered to lick any thing, except it is chalk-stone now and then; though it is much better to debar them from that, and rather give them chalk finely scraped, at times, in the milk, in small quantities.

To order your calves in the best manner, you must make pens for them, with floors raised two or three foot, to keep them from the damp of the ground; and so disposed, that their urine may easily drain off. They must be so open in the front, as that they may

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receive



receive as much air as possible; and so well covered at the top, that they cannot receive any injury from storms of rain.

To prevent their licking the walls, or any thing else which may discolour their flesh, you must fasten to their yoke or collar a strait bit of stick, disposed in such a manner as to pass over the whole length of their head, and project four or five inches beyond the muzzle; which will always stand in their way, and prevent them from licking any thing.

It is customary to bleed them frequently to make their flesh white; but, in my opinion, should not be done to that excess which our farmers generally do; no more than the keeping them from meat a day or two before they are killed: for these methods certainly sicken the calves, and consequently their flesh cannot be so wholesome, as if they had been killed while they were in perfect health.

But notwithstanding there is this nice care used, for fatting calves in Essex and Hertfordshire, to render their flesh
white;

white; yet, in my opinion, a calf of six weeks, that has been well suckled, and kept in a cool place, without any of the other ceremonies, has yielded a flesh no ways inferior to the Essex fed veal. For although, perhaps, it may not appear, when it is brought to market, so white as the other, yet, when it comes to the table, it is not wanting of as good a colour, is fuller of juice, and much more nourishing.

In April some farmers buy young calves to suckle, and fatten them for the London markets, by which they gain considerably.

C H A P. V.

Distempers that CALVES are most subject to, with approved Remedies.

For the Lask, or Scouring, or Looseness in a sucking CALF.

TAKE new milk from the cow, a quart, and simmer or boil gently in that a handful of marsh-mallows, or, for want of them, common mallows, about half an hour; then strain the milk from the herbs, and put in

the powder of liquorice and anniseeds, each a quarter of an ounce, with an ounce of treacle, and as much butter, mixing all well together; and give the calf half one morning, and the rest the morning following.

Another Remedy for a sucking CALF that scours.

Take a pint of verjuice, and clay that is burnt till it be red, or very well burnt tobacco-pipes, pound them to powder, and searse them very finely; put to it a little powder of charcoal, then blend them together, and give it the calf, and he will certainly mend in a night's time.

Proper Food for CALVES while they suck.

Give them a trough of barley meal, and it will whiten and fatten them. Some give them oats in troughs all the time of their sucking; and the night before they have them to market, cut off a piece of the tail, and tie it up with a shoemaker's end, and when at market will give them a cram or two of flour
mixed

mixed with claret, which keeps them from scouring.

To prevent Stricking of CALVES.

A Draught, to be given them about Michaelmas, enough for five.

Take rue, the smaller centaury, featherfew, ragweed, or ragwort, and celandine, of each half a handful, tie them in bunches, and boil them in five quarts of middling beer which is clear, and well cleared from the yeast; or if it should happen that no such beer can be had, then use a like quantity of water, and add to the foregoing ingredients three pints of malt; let them boil a quarter of an hour, and strain out the herbs till no liquor will run from them; then add, of flower of brimstone, four ounces, powder of liquorice, madder, and anniseeds, of each two ounces; the whole being well stirred together, and made milk warm, must be divided into five parts, and given to as many calves.

C H A P. VI.

Rules to be observed in buying CATTLE.

WHEN you buy oxen for the plough, see that the hair stare not, and that they want no teeth; that they be young and not gouty; of a high stature and long bodied; free from diseases, and not broken of hair, neither of tail nor of pizzle.

If cows for the pail, let them also be young, high of stature, and long bodied, with a large and round belly, large fair and smooth horns, a broad and smooth forehead, udders white, not fleshy, but large and lank, with four teats, and no more.

If oxen or kine for fatting, the younger they are the sooner they will feed; see that the hair stare not, and that they be whole-mouthed, and want no teeth, for then, though they should be broken both of tail and pizzle, either of which is a sure sign of a waster, yet will they feed; that they have broad ribs, thick hides, and loose skins, for
if

if they are hide-bound, they will not feed.

Take particular care not to buy either fat or lean cattle out of better grounds than your own; for they will not thrive with you, especially if they are old.

In short, in the buying and selling of cattle there is great hazard; and a grazier ought to understand them very well, and the ground likewise that he feeds them upon, or else may soon run through his stock.

C H A P. VII.

Of Ox Stalls, their Situation and Structure.

IT is necessary, when we would build an ox stall to the best advantage, to consult chiefly the situation; that it lie dry, and be not too much exposed to the sun, or heat of the weather. Some authors have commended the pavement to be of stone pitched; but the best way is, to lay the floor with small Dutch bricks, such as are called clinkers, set edgeways, which are commonly

monly used for floors or pavements of stables.

These floors should be laid sloping, as is commonly practised in stables for horses, to carry off the wet; and the windows should by no means be to the South, for then the heat would be too great for the health of the oxen. What openings or windows you make in such places should rather be to the North, or to the East, that they may have some benefit from the morning sun, and from the cooler air of the day in summer. The doors in front should be large, and in winter they may be sometimes open, to let in the sun, or warmer air.

The stalls should be eight foot wide, that they may have room enough to lie in, so as the pregnant cows may not hurt one another, nor the stronger ox wrong the weaker: and that there may be room enough for their keepers to come about them, and for yoking them.

C H A P. VIII.

Rules for the feeding of OXEN.

CATTLE, which you intend to feed and make fat, either for the purse or private provision, must be fed upon your best and most fertile grounds; and in the ordering of these grounds there are divers things to be observed: as first, That they be well fenced; then well stored with water that is sweet and wholesome; for howsoever the ancients held opinion that these cattle delight in troubled waters, yet experience shews us, that putrified waters breed mortal diseases: that they lie free from inundations: and that those pastures which you lay and give rest to from the beginning of November, you may graze at Candlemas following, with holding cattle or beasts beginning to feed, but with your fat cattle not till Lady-day.

Those pastures which you lay or give rest to at Candlemas, you may graze the May following; and those you give rest to at May, you may graze at Midsummer; those you lay at Midsummer, you may graze at Lammas; and those you lay at
Lammas,

Lammas, you may graze in October, and generally all the winter following.

Lastly, You may observe, that those pastures which lie most in danger of water, or any other casualty, should be first eaten, lest by too long delaying an unseasonable time come, and so you be prevented both of your hope and profit.

Now in the eating of your pasture grounds, there are also many things to be observed; as first, in the feeding of your fat cattle, you must by all means provide that they have full bite, which is to say, length of grass; for cattle whose tongues are the principal gatherers up of their food, neither can nor will bite near the ground, unless extreme hunger compel them; and then they take little comfort in their food.

Next you shall often (as any fit occasion will give you leave) remove and shift them into fresh grounds, and not expect that they should eat your grounds down to the bottom, but only, as it were, skim and take the uppermost and choicest part of the grass; and
so

so they will feed both swiftly and thoroughly. And for that grass which they shall leave behind them, you may feed it after them with your labouring cattle, and lastly with your sheep.

It is also very good amongst your fat beasts to have some few lean horses; for your fat beast delight to feed with them, and sometimes to bite after them, there being, as it were, a kind of sympathy or liking of each others breaths.

After your grass is full knit, and hath received its whole strength, which will be about Midsummer; then you may suffer your fat beasts to eat a little nearer to the ground till after Lammas, because there is an extraordinary sweetness in it.

In the feeding or fattening of cattle it is to be observed, that if you give them fresh and deep pasture regularly, they will soon be fat, and fit for sale. Let them not stay too long in one ground; for if they want, they will lose more flesh in one day than they can recover in three; nor is there any certain rule how long time cattle require

require in feeding grounds to be fat; some will take three months, others two, and some will be fat in six weeks. The season is the chief, with regard to feeding; if that be favourable, cattle may be fed much sooner than if it was dry, and the grass dry and husky. And again, the sort of grass is to be considered; the clovers, or most of the French grasses, will fatten cattle very quickly, and next to them the marsh land: and they will be longest fattening in the common grass; and should, as I observed above, be often shifted.

These few observations well kept, there is no doubt but your cattle will feed to your own content.

Then when you see they are sufficiently fed according to your purpose, whether it be for the use of your household, or for the market, you may forthwith employ them accordingly; for it is both loss of time and money, not to put them off by sale, or otherwise, as soon as they are come to the end of your desire.

For

For those rich grounds will sometimes make two returns in a year, and sometimes three, which is a great profit; and I have heard sometimes of four, but it is very rare; and the cattle so returned must be very well fleshed before they be put to feeding. But if your ground will return lean beasts twice fattened in the year, it is sufficient.

Sell or kill your cattle when they are fat; and if you have not the art and skill to know the same, you may observe these rules following:

First, When you see your beast, in the general shape and composure of his body, shew most fair and beautiful, each member being comely, and each bone covered so as a perfect shape requires, you may then judge the beast to be well fed; especially when you see his huckle bones round, and not sharp; his ribs smooth, and not rough; his flanks full, his neck thick, and his cod round. When you perceive this, you may handle him, and feeling him upon the nethermost ribs, if you perceive the skin loose and soft under your hand, you may be assured that the beast is well fed out-

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wardly, that is, upon the bones. You may then lay your hands upon his round huckle bones, and if they feel soft, round, and plump, you may be assured that the beast is well fed both inwardly and outwardly, that is, both in flesh and tallow. Then you may handle him at the setting on of his tail, and if that feels big, thick, full and soft, it is a true sign that the beast is very well fed outwardly. Then handle his nach bones, which are on both sides the setting on of his tail, and if they feel soft and loose, that is a sign also of his being well fed.

Lastly, You may handle his cod, if it be an ox, and the navel, if it be a cow; and if they feel thick, round, soft, large, and plump, it is a certain sign that the beast is well-tallowed within.

When any of these parts or members handle contrary to the rules above given, you may then make a contrary judgment.

But let us feed our cattle ever so well in the house, or at the rack, we must have as great regard to their feed
in

in the field, and especially at the time when we have first put them to fresh grass ; for on that occasion, both oxen and cows will be subject to distempers.

It is necessary likewise in winter to take care that they are not fed too sparingly, or kept too low in their diet. It is also necessary at that season to give them plenty of litter, especially when they come from labour ; as also to rub and dry them well, stroking their hair smooth, and raising gently the hide from the flesh.

When they come from work, or out of the pasture, you must wash their feet well, before you bring them into the house, that the filth sticking to them may not breed diseases, nor soften their hoofs. You must take care of extreme cold or heat, for too much of either fills them with diseases. You must take heed that they be not chaced up and down, especially in hot weather, for that gives them the fever, and oftentimes the flux.

Take heed also, that neither swine nor poultry come near their stalls, for the dung of either of them poisons the

beast. You must also remove all manner of carrion, and bury it, for fear of infecting your cattle.

If the Murrain happens to come amongst them, you must presently change the air, and place them far asunder in divers pastures, keeping the sound from the sick, lest the infection spread in the herd; neither suffer such as are infected to feed or drink with the rest.

N. B. For keeping of cattle to the most advantage, there should be several closes of pasture ground to put them in, which should be well inclosed and fenced about with ditches or hedges, the better to sever and keep apart the greatest and strongest cattle from the weak and small ones, especially in the winter, when they are foddered; for if all sizes go together, the great and strong ones will out-master the others, driving them from place to place, and trampling and spoiling more fodder than they eat; and by being foddered abroad, if served as aforesaid, far less will serve them than if kept at house, and the cattle will

will thrive the better; besides it is an improvement to ground.

Neither cattle, horse, or sheep, put into a field alone, will eat down the pasture even, except it be over-stocked, and this is not good; therefore it is convenient to put horses and beasts well together, for there is some grass that a horse will eat that a beast will not: but horses and sheep will not well agree together, both being sweet feeders and close biters.

Milch cows and draught oxen feed closer and barer than those that are fat.

Now for the preservation of cattle in good health, it is good to let them blood (except the calves) every spring and fall, the moon being in the lower signs; and also to give them a drench made of the pickle of olives, mixed with a head of garlick bruised therein: and for your calves, let them not go too early to grass.

It being of the utmost consequence, I shall conclude with reminding you, that when you buy cattle, whether cows or oxen, they ought to be young; and

to be brought from a poor to a better pasture, else the farmer can never thrive.

C H A P. IX.

Fodder for Cattle.

BUCK-wheat makes very good fodder for cattle; and the grain is excellent for feeding poultry.

Spurry is preferred in Germany before any other fodder, and even before grain.

The richest milk and the best butter there are produced by this feeding, which besides preserves the cattle in health. Mutton fed with this grass, it is said, has an excellent flavour.

La Lucern.—The hay made of it is extraordinary fodder for cattle in winter; and also in the field it is a very serviceable winter food for them, for it is of a warm nature, and very nourishing, and not apt to rot sheep, tho' it is a little juicy. There is, without dispute, no plant which increases milk in cows so much as this, or will fat oxen so soon: and it is no less useful for fattening sheep, as has been experienced in Cambridge-shire,

shire, Essex, and some other counties. It must be mixed with straw.

Turneps.—There are two sorts cultivated by the farmers to feed their cattle and sheep, the one called the pudding turnep, which is large, round, and long, and should be first fed, being more liable to be hurt by the frosts, as they grow a great deal above the ground: the other is called the green round turnep, because the upper part of the root is green: this is a very large and hardy turnep.

Tares.—The common and the white, are often sown for horned cattle and sheep to feed upon in the spring, when turneps fail, and are reckoned a very wholesome food. The white are greater bearers, more hardy, and better fodder than the common.

Lentils or Tine Tares are commonly sown for fodder in the several counties, and likewise for seed, with which they feed their pigeons and poultry.

C H A P. X.

A Description of the particular Symptoms commonly attending the several Distempers to which Kine are subject.

THE Murrain or Plague.—The signs are, a glanderous running at the nose or mouth, a swelling in the throat, and loss of appetite, and sometimes the tongue will be very much swelled. The Murrain sometimes attacks these creatures in their bowels, shoulders, and hips, so that they can hardly move or breathe; and this distemper is very dangerous. Another kind appears like a Farcine, with pimples all over the body, which will vanish in a quarter of an hour, and return again. This distemper is sometimes so violent, that it deprives the beast of sight and hearing, and affects it with a kind of madness, which, if not taken in time, proves mortal.

The back Strain or the Running.—This distemper is not unlike the running of the reins in other creatures.

The Pissing Blood.—This wants no explanation.

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The Tail, by some called the Wolf.—This is discovered by a softness between some of the joints of the tail, appearing as if the joints had been separated from one another, or some of the ligaments broken.

The Blane or Forespring.—This shews itself by the beast's feeding in pain, being generally attended with blisters under the tongue.

Of the Middlespring, or Wind, or Puff.—This distemper proves fatal if it is not taken in time; the beast appears as if the skin of its body was blown up like a bladder, his breath is then short, and becomes much shorter in standing only a quarter of an hour.

Of the Flux, or Lask, or Scower.—When a beast is troubled with this distemper, it will lose its flesh more in a day, than it can recover in a week or ten days.

The Cough.—This may prove dangerous, if not soon removed.

Of the Fever.—It is known by the watering of their eyes, their heads will be heavy, their pulsation quick, and their body much hotter than usual:
moreover

moreover you may observe a viscous liquid to fall from their mouths.

Stoppage of Urine.—This is thought to be the gravel in the kidneys, which you will know by the cattle's difficulty of watering, and groaning at that time.

The Yellows, or Pantefs, or Gall.—Is known by the running of the eyes, and a large quantity of yellow wax in their ears; as also by a yellowness appearing under the upper lip.

Lungs disordered.—This is known by the great weakness in the beast's legs, so that it will be hardly able to stand, though full of flesh and fat.

The Hide-bound, or Gargut.—This shews itself commonly by blisters between the claws; but the chief mark is the straitness of the skin, and the too great swelling of their belly.

The Gargyse.—Is a swelling on one side of the eye, in manner of a boil, blotch, or buboe: this is as dangerous a distemper as any that can attend the cattle.

Lowring, or Losing the Cud—Wants no explanation.

Clue-bound, i. e. Costive.

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The Scab.—This distemper is very infectious, spreading itself presently through a whole herd: it comes chiefly from poorness of diet, and is sometimes occasioned by the want of water in summer.

Inflammation in the Lungs. This is known by the beast's holding its head higher than common, and drawing its wind with difficulty: it will likewise be chiefly in a standing posture, without caring to lie down, and will groan very much.

The Bite of a Mad Dog, Viper, or Slow Worm, produces an Hydrophobia, or somewhat like it, as well in cattle as in mankind.

The Fowle.—This is the same as the swelling in the hoofs of the beasts.

The falling down of the Palate.—When a beast labours hard, and wants water, it is commonly attacked with this disorder.

Of the Rot.—When this distemper attacks any beast, it will fall from its meat, quickly grow lean, and have a continual scouring.

Lofs

Loss of Appetite—May be perceived by their not chewing the cud, forbearing their meat, and not licking themselves as usual; their eyes are dull, and they have frequent belchings.

The Hind Spring or String.—Is when they become bound in their body, and cannot dung.

Of the Cleaning of a Cow; how to help her immediately after calving, and to heal her after the cleaning is taken away.

Of the Kibe, or what the ancients called the Halt.

Galled or bruised Necks by the Yoke in Oxen.

Of the Husk, &c.

Of the Scower or Bloody Flux.

Sinews strained or weak.

Wound or Sore, old and green.

Diseases of the Eyes which occasion Weeping or Inflammation, such as the Haw, the Pin or Web.

Lameness; Shoulder-pitched, or Cup-sprung.

Bone broken or misplaced.

Swoln Cods in a Bull.

The Canker upon the Tongue.

C H A P. XI.

*Proper Remedies for the Distempers and Accidents,
before-mentioned.*

*For the MURRAIN, when the Throat and Tongue
of the Beast are swelled.*

OPEN the swelling of the throat four or five inches in length with a sharp knife, and carefully take out the core or corrupted matter that you will find there, which is commonly of a green or yellow colour; wash the part well with fresh human urine, dress it for two or three days with hogs-lard, stitch up the wound afterwards with a shoemaker's end, and rub the beast's nose with a little tar.

In the dressing up this wound, you must observe not to make that operation above once in three days. When there is no more appears than the swelling in the throat, the distemper is not then infectious. .

When attacked in their bowels, shoulders, and hips.—The most approved remedy is, to boil annise, fennel, and angelica seeds, of each half an ounce, in a quart of middling malt liquor, till

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it is strong of the seeds, and give half the liquor at a time to the beast, sweetened with a little treacle.

When it appears like a Farcine, with pimples all over the body; take of treacle, an ounce; middling malt drink, a quart, free from the yeast; of ale-wort, the same quantity; let the liquor be warm'd, and the treacle dissolved in it, adding to it as soon as cold, half an ounce of flower of sulphur; (some add to this liquor about a quarter of an ounce, in each dose, of the juice of crow-garlic) give a pint at a time to a beast for four or five mornings, an hour or two before you turn it out to grass. It is necessary when a beast is seized with this distemper to remove it immediately from the herd, to prevent the infection from spreading; and if it should die, to bury it, skin and all, deep in the ground. If you find that a beast has been attacked with this distemper, some time before you discover it, it will not be amiss to rub the muzzles of the other beasts with a little tar; or to give every one a pint of the ale, treacle, and sulphur, above-mentioned.

This

This last kind of Murrain, I judge, either comes from poorness of diet, or from the nastiness of their stalls. It is in some counties called the Poverty Murrain.

If the tongues of the cattle happen to be very much swelled, wash them with vinegar and salt twice a day, till they can get them again into their mouths; and rub their muzzles, at the same time, with a little tar, which will prevent the flies from blowing them, and their being eaten by maggots.

When this is the case with them, you may give them necessary subsistence through the nostrils with a horn, till they can take it at their mouths. Some, to reduce the swelling of the tongue, will boil oak leaves in vinegar; or, for want of that, a little oak bark.

When the Murrain feizes a bullock in the bowels, you may perceive it by his hard and painful breathing. The following remedy has proved of great service in this distemper.

Take of horie dung, a quarter of a
peck; rue, two handfuls; pigeons
E 2 dung

dung, about three quarts; tie the herbs in bunches, and put the dung into a bag: boil these in five gallons of middling ale-wort, till the liquor is strong of the ingredients; then strain it off, and add to the liquor two pounds and a half of madder, one pound of flower of sulphur, one pound and a half of burdock seed, with cummin seed and anniseed, of each a pound: this quantity will serve about eight beasts.

At the same time that you give the distempered beasts these drinks, it is necessary to setter them in the dewlap with the root of black hellebore, or bearsfoot, as it is called in some places: these setters may remain about eighteen hours, more or less, as you perceive they operate. When the setters are taken out, dress the wounds with hogs-lard and ragwort, beaten and bruised together; and, if the season of the year will permit, bleed them at the same time.

The spreading of the Murrain is prevented by fumigation, either of tobacco, sulphur, unslacked lime, garlick, coriander seed, or wild marjoram, singly, or all together, laid upon burning coals
in

in chafing dishes; those fires being set at proper distances in the cow-houses, or among the ox-stalls, during the time the cattle are abroad, and so, that the stalls may retain some of the smell of these ingredients. Frankincense and olibanum may likewise be burnt on this occasion; and camphire laid here and there about the several stalls: but above all, keep their stalls clean.

For the Back Strain.—Take comfrey, archangel, knot-grass, plantain, and shepherds purse, a handful of each; boil these tied up in bunches, in about five pints of ale-wort, or for want of that, in middling beer, free from yeast, till the liquor is strong of the herbs; then add an ounce of anniseed, and about a quarter of a pound of bole armoniac finely powdered; when these have boiled again, put in about half a pound of treacle, and when it is strained, give half the liquor to a cow in the morning, and the other half the morning following, not suffering her to drink till the afternoon.

The Pissing Blood. This distemper often proves fatal to cattle.—Take

plantain, shepherds purse, and knot grass, of each half a handful, to which add half a handful of camomile; shred the herbs small, and boil them in two quarts of ale-wort for about twenty minutes, then add bole armoniac, finely powdered, about two ounces, and as much fullers earth; then straining off the liquor, when these have boiled all together four or five minutes longer, sweeten it with about four ounces of treacle, and it will make a draught for an ox, bull, or cow, to be given in the morning: this dose may be repeated two or three mornings successively. In very desperate cases you may, instead of the bole, boil with the herbs the same quantity of oak bark finely powdered, and it will have a surprizing effect.

The Tail.--When you think this to be the case, with your finger and thumb feel between every joint of the tail, and where you find any division or openness between the bones, or any remarkable softness between the joints, slit that part with a sharp knife lengthways, on the under side of the tail, about two inches, and lay in the wound the following composition :

position: sea or common salt, wood foot, and garlick, well beaten and mixed together, of each a like quantity, binding them up with a bit of linen cloth.

For the Blane.—If the tongue is blistered, rub it with some of the sharpest vinegar you can get, and salt; and alternately wash the part with a decoction of the inner bark of elm, and of oak, in equal quantities, viz. about two ounces of each, boiled in a quart of rain water, till it is reduced to a pint: while this is used, bleed the beast in the neck, and give the following medicine:

Take of treacle six ounces, and mix it well with a pint of strong white wine, and two large spoonfuls of vinegar; after about six ounces of butter have been melted and mixed with the wine and treacle, give this, milk warm, to the beast, walking it gently after for about half an hour.

For the Middle-spring, or Wind, &c.
—Take a sharp-pointed penknife, and strike it into the pannel on the left side of the cow or bullock, about four inches from the loin, and the same distance from the short ribs; you will then easily perceive

ceive the wind press out from the body of the beast, and the creature will immediately be easy; then shave off the hair about the wound, and apply to it a plaister of shoemakers wax.

For the Flux, or Lask, &c.—In the first place, keep them from drinking much; and secondly, give them little meat the first day, or, as some do, keep them fasting for twelve hours at least. The following drinks have been experienced to be extremely serviceable to them in this disorder:

Take a quarter of an ounce of the stones of grapes or raisins beat to powder, which boil in a quart of strong ale, and give the beast in the morning.

Or take the same quantity of the inner bark of oak, and boil it in strong ale or beer-wort, strain and sweeten it with an ounce of sugar well dried, and give a beast about a quart in a morning: some boil in this drink a handful of wormwood, and an ounce of bole armoniac.

Another successful remedy, viz.—
Take of rue, red sage, and roman,
or (for want of this) common worm-
wood,

wood, of each one handful, shred and boil them half an hour in a quart of ale-wort, or good drink free from yest; then put in four ounces of bole armoniac, and about an ounce of the grains powdered, with a piece of butter without salt; let these boil a little, and give half the quantity to a beast in the morning, keeping it from water two or three hours afterwards; and missing a day, give it the other half.

For the Cough.—Take a pint of barley meal, and two or three ounces of raisins, boil these together, strain and mix the yolk of an egg well in it, and give it a beast in the morning fasting.

Another remedy, famous among the country people.—Take a large handful of hyssop, boil it in water, strain it, and mix the water either with wheat or barley flour, and give it to the beast to drink. Or else

You may boil hyssop in ale-wort, about the same quantity, and give it with good success.

Sometimes the cough will lead cattle into a consumption; to prevent which,
fetter

setter them in the dewlap, and give them two ounces of the juice of leeks, boiled in a quart of ale.

In desperate cases.—Take of the seeds of fenugreek, of annise, and bay berries, of each half an ounce, and madder two ounces; the seeds and the madder must be well beat and mixed together, and with the bay berries boiled in two quarts of good ale, free from yeast, till a fourth part is wasted; then pass it through a sieve, and while it is warm sweeten it with treacle, and give it in the morning.

For the Fever.—The morning following bleed the beast in the tail; and an hour after give it the following medicine:

Take one handful of the young stalks of coleworts, or for want of these, as much of cabbage or savoy leaves, or the leaves of curled worts; boil these in a quart or three pints of common water, with a little salt, and after straining it off, add a little fresh butter, stirring it till it is entirely dissolved; an ounce of treacle may likewise be mixed with this medicine, and
given

given fasting, milk warm, for four or five mornings successively. Some farmers and cow leeches boil the colewort stalks in small beer, which is judged to be better than the water and salt.

Others boil barley or malt in water, and then boil the colewort stalks, and add butter and salt to the medicine.

For Stoppage of Urine.—When occasioned by the gravel in the kidneys, boil parsley, smallage, or green sellery, saxifrage, alexanders, and rue, of each one handful, in about two quarts of old beer, till it is strong of the herbs; strain this off, and then put in liquorice sliced, annise, cummin, coriander seeds, and turmerick, of each an ounce, and boil till the liquor is strong of the last ingredients; add to it fresh butter and treacle, of each a quarter of a pound: this will serve two mornings.

If the beast does not water for two or three days, you may conclude the gravel or stone is in the bladder or urinary passage, and then it is best to kill it at once.

Of the Yellows, &c.—This distemper commonly proceeds from the cattle's
eating

eating unwholsome food, or from poor diet.

Take of wood foot, finely powdered, an ounce; plaintain and rue, of each a handful; garlick, eight large cloves, stamped; hemp seed, an ounce, or the tops of hemp, a handful; boil these in three pints of fresh human urine, or as much old beer, and when it has passed through a sieve, give about a quart of the liquor to a large bullock; then rub his tongue and the roof of his mouth with salt, and chafe his back with human urine.

Another medicine.—Bleed the bullock, if it is a proper season. Take rue, angelica, featherfew, and celandine, of each a handful; for want of celandine, use the leaves of artichokes; cut these herbs small, and boil them in three quarts of old beer, till it is strong of the herbs; then add liquorice sliced, an ounce, coriander and cummin seed, of each an ounce, with two drachms of long pepper; boil all together gently for three or four minutes: when you take it from the fire, you may put to it an ounce of flower of sulphur, and of butter and treacle

treacle about three ounces of each. Half this preparation may be given to a beast fasting in a morning, and after resting a day give it the remainder.

Another remedy for the YELLOWS.

Take of rue, and the lesser centaury, of each one handful; two ounces of elder flowers, or in lieu of these, a good handful of elder buds, or green stalks of elder; cut these small and boil them in five pints of ale-wort; when the liquor is strong of the herbs, pass it through a sieve, and put in an ounce of anniseed, half a drachm of saffron, and about an ounce of grains; let these boil a little, and add of treacle and butter about three ounces each, which will be sufficient for two days.

For disordered lungs.—Take one handful of wormwood, as much liverwort, and eight cloves of garlick bruised; boil these gently in a quart of ale, free from yeast, pass the liquor through a sieve, then add an ounce of madder finely powdered, half a drachm of whole pepper, and about a dozen cloves, which,

as soon as they have boiled enough to give the liquor a sufficient pungency, clear off and sweeten it with two ounces of treacle, and give it the beast milk-warm.

For the Hide Bound, &c.—Take a hair line, and draw it between the claws or hoofs, in the blistered part, till it bleeds. Then you must take a handful of the leaves of *tapsus barbatus*, in English, Morth mullein; boil this in a quart of milk, and give it the beast in a morning fasting; or else boil it in ale, or ale-wort rather, because there ought to be no yeast. This distemper is thought to be occasioned chiefly from the cattle feeding too much upon clover, lucern, saintfoine, or other rich grasses, which will make them swell to such a degree, as sometimes to burst them. A cow or a bullock may take the above remedy two mornings, keeping them warm in some house while it works.

For the Gargyse.—Cut with a sharp pen-knife, or lancet, the boil or swelling round about, as deep as the skin, to prevent its falling into the muzzle of the
the

the beast, which will certainly happen, if not timely prevented by this method, and prove mortal.

Then take fresh human urine and salt, and let them gently simmer together over the fire, with which, when near cold, wash the swelling, and the part that has been cut, mornings and evening, till the swelling abates; at the same time giving the beast, every other morning, some flower of sulphur, in warm ale, or ale-wort.

When you dress this boil, take particular care to scrape and clean it and the wounded part from the little blisters, or pustules, even till you come to the quick, and the sore has quite ceased running.

When the swelling is quite gone, boil nerve oil and honey together, and while it is milk warm anoint the wound, and sore part, and it will soon heal.

For lowering, &c.——Take half an ounce of grains, annise and cummin seeds, of each an ounce; and bay berries, fenugreek seeds and turmerick, of each half an ounce; three ounces of madder, and as much treacle as will

make the composition indifferently sweet. When these are ground and well mixed together, put them into three quarts of ale, free from yeast, or new wort; let them boil together till the drink is strong of the above-mentioned ingredients, and when it is milk warm, give half of it to the beast in the morning, before he has taken any water, and suffer him not to drink till afternoon if it be in the summer time, nor till night if in the winter.

A Cow Spice, or Powder for Lowering.

Take of annise, cummin seed, liquorice, and turmerick, of each two ounces; coriander seeds and grains, of each half an ounce; beat and grind these small, and mixing them well together, the composition will be fit for use at any time. To this may be added two ounces of madder finely ground; and when you use it add a little bit of butter and treacle, and give it warm in a morning, not suffering the beast to drink till five or six hours after taking the medicine. This is an excellent remedy for either cow or ox, and may be
always

always ready in the house, but must be carefully kept from the air till you want to use it. The best way is, to put it in large-mouthed bottles, with glass stopples, and keep it in a dry place. It will keep a year or two very well; and about three large spoonfuls may be given at one time, in a quart or three pints of ale-wort made warm, or as much ale free from yeast.

For a beast that is Clue Bound.—Take of Castile soap half a pound, add to this treacle and butter of each a like quantity; put these into three pints of soft water, in which chalk has been infused, though some recommend stand lee; of either of these liquors take three quarts, and when the whole is dissolved and mixed, give half the medicine to a beast in the morning before it has drank, keeping it in the house till noon: repeat this medicine two mornings. If the beast should continue to be too much bound, or the remedy should not happen to operate, give it some balls made of butter and ruff sand.

For the Scab.—Make a strong decoction of tobacco stalks in human

urine, and wash the infected parts frequently with it; at the same time giving the beast the following drink :

Take of rue and angelica, of each a handful, shred these small, and boil them in three quarts of ale without yeast, or new wort, and add an ounce or two of flower of sulphur, with butter and treacle, of each three ounces, giving it to the bullock at two mornings. When this distemper happens to any bullock, it will soon reduce him to a great leanness; wherefore bleed him, and give the following medicine: of old human urine a quart, in which mix a handful of hen's dung, or half a handful of pigeon's, and give it the beast to drink.

For an Inflammation in the Lungs.—First bleed the beast in the neck, and then give it the following dose :

Take lungwort, celandine, and hyssop, of each a handful; of the smaller centaury dried, an ounce, or for want of them, four ounces of elder tops. Boil these well together in a quart of ale-wort, or in lieu of that in a quart of ale free from yeast; then press the
herbs,

herbs, and strain the liquor from them, putting at the same time to it an ounce and a half of the cow spice abovementioned, or for want of that, anniseeds and fenugreek seeds, of each an ounce, with about an ounce and a half of liquorice sliced. Boil these together for a little while, and add butter and treacle, six ounces of each, which will make a medicine to be given two successive mornings. The lettering of a bullock, in this distemper, on the dewlap, with hellebore, has proved effectual.

For the bite of a mad Dog.—Wash first the grieved part with fresh human urine, and when the wound is rubbed dry, light some tinder, and lay it burning upon the parts where the teeth have penetrated, having first thrown the bullock; and if this does not blister the part itself, you may an hour after touch the same part with a red hot iron, till you make a sore of the place; you may then use the following oil:

Take a pint of olive oil, and infuse in it four or five handfuls of plantain leaves, shred small, for eight or nine days; then boil these together till the
herbs

herbs grow crisp, and strain it into a glazed earthen vessel, and anoint the part with it frequently till the wound or sore is healed. This oil is generally used by the viper catchers.

Some make the following plaister: Of bole armoniac, sanguis draconis, barley meal, with the leaves of plantain shred small, or beaten together in a marble mortar, and then beat up with whites of eggs. This serves as a plaister to be laid on fresh and fresh every morning and evening.

It will be happy for a farmer to know immediately when a beast has been bit; for unless the remedy is immediately applied, the beast will be lost; and if you should happen to kill him for the markets, the flesh would be poisonous, and would convey the distemper in some degrees to the eaters of it. If you have not the remedy ready by you, the only way to save the flesh, is to cut off the limb as soon as it has been bit.

For the Fowle.—Take a hair rope and draw it between the claws, till the swelling is broke and bleeds freely; and
heal

heal the wound with tar, turpentine, and greafe, mixed together.

For the falling down of the Palate.—Cast the beast, and you may then thrust up the palate with your hand; and as soon as it is done, bleed it in the same place, and anoint the wounded part with honey and salt well mixed together, turning him then to grafs, for dry meat is by no means proper for him.

For the Rot.—Take bay berries finely pulverized, myrrh, ivy leaves, featherfew, and leaves of elder; put these into fresh human urine, with a lump of yellow clay, and a little bay salt, mix them well together, and give a pint each morning warm to the beast. This medicine is likewise good for any beast that is troubled with the scouring.

For the loss of appetite.—Take of rue and pellitory of Spain, of each one handful; of featherfew, horehound, red sage, and bay salt, of each a like quantity; put these ingredients into five pints of ale-wort, and boil them for a short space, and then straining off the liquor, give about a pint at a time milk-warm
to

to each beast every morning, not suffering them to drink till the afternoon. The neglecting of this distemper will occasion the beast to be violently pained, which you may perceive by his suddenly starting from one place to another. The best remedy then is, to tie his tail close to his body, as tight as possible, and giving him a pint of strong white wine, with half a pint of olive oil, immediately to drive him a mile or two, as fast as you can get him along; and after a little resting, drive him a mile more, which will cause the medicine to operate. The foregoing distemper is by many called the cholic.

For the Hind Spring, &c.—The method of cure is, to rake the bullock or cow with one's hand, after having well greased it, and to take away the dried dung and clots of blood, which will be found in its fundament. Administer then to the same part as much bay salt as you can introduce with your hand, which will irritate the passage so much as to occasion the beast to dung freely,
and

and heal the wounds; especially if you give him at the same time the treacle, wine, and butter, prescribed in the medicine for the blane or forespring.

This is a very dangerous disorder, though it seldom happens among this sort of cattle. It is occasioned by too much dry meat, or more generally when they are obliged to feed upon oak leaves, for want of grass or other provender, which bind up their bodies in such a manner that they cannot dung.

Of the Cleaning of a Cow, &c.--When a cow has calved, give her about a pail full of warm water, with a pint of wheat meal, and throw about as much burning wood embers into the water, which will help the cow to clean. If they are oak embers, so much the better; I mean burning coals of oak, not having too much regard to the ashes. If after this the cow has any difficulty in cleaning, giving her the following medicine, which will discharge as well as heal, taking especial care that she does not eat the cleaning when it falls from her.

Take

Take of vervain half a handful, mother wort, rue, camomile, and featherfew, of each a handful; make a decoction of these herbs, in bunches, with about three quarts of ale-wort, or middling ale, till the liquor is strong of the herbs; then add an ounce of misleto finely pulverized, with liquorice and anniseed, of each an ounce, beat to powder; and when it is ready to come off from the fire, put in a piece of fresh butter, and it will make a dose for your cow, to be given two mornings. When you give this medicine, the cow should not have any water for three or four hours after.

For the Kibe.—First cut it with a sharp knife, and then apply the following medicine with fine tow to the wound:

Take an ounce of verdigrease finely beat and sifted; work this into a salve with two ounces of fine soap, and dress the kibe with it. Some use aqua fortis instead of cutting, which being very dangerous should never be used.

For Oxen that are Galled, &c.—Take white lead, and grind it well with train oil, till it becomes a salve; with this
anoint

anoint the grieved part, and it will presently heal the fore and discharge the swelling.

For the Hufk.—Take hyffop, the smaller centaury, celandine, marsh mallows, of each one handful; boil these in ale free from yest, or in three quarts of ale-wort; then add three ounces of cow spice made as above directed, with treacle and butter, of each six ounces. This will make two doses, to be given every other morning.

For the Bloody Scower, &c.—Take of elder buds, or elder flowers, a handful; if the elder flowers are dry, take two ounces of them; hyffop, mallows, and celandine, a handful of each. If the cow or bullock be large, boil these in five pints of old strong beer, but if of a small breed, three pints, to which add anniseeds and liquorice, of each about two ounces, more or less, according to the size of the beast, with treacle and butter of each six ounces, and madder powder about two ounces. When you give the beast this drink keep him warm, and give him warm

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masnes,

mashees, in each of which grate about a quarter of an ounce of oak bark. While this distemper is upon him, don't suffer him to drink any cold water, but prevent his thirst by mashees.

For a Sinew Strain, &c.—Take marsh mallows and chickweed, of each a handful; boil them in a quart of vinegar, adding three or four ounces of tallow. With this mixture, while it is very hot, bathe the grieved part.

For an old Wound, &c.—Take of white copperas three ounces, roch alum one ounce and half, bole armoniac six or seven ounces; let these be finely pulverized and mixed together, and putting them in a glazed earthen vessel, stir them well over the fire fifteen or eighteen minutes, till they seem to be well mixed. Then take off the mixture and let it cool, after which beat the composition in a marble mortar, till it is reduced to a fine powder. You must then boil three quarts of spring water (from chalk is the best) and closely cover it while it is boiling; after it has boiled five minutes, pour it hot into a clean vessel, and put into it about three ounces

ounces of the powder, stirring and mixing it well as soon as put in. In two or three days this water will be well settled, and then filter and preserve the clear in a bottle well stopped.

When you have occasion to use this water, make it as hot as it can be endured upon the affected place, dipping a linen rag into it, and applying it to the wound; which may be repeated at least twice, if not three times the first day, and afterwards bind upon the fore a piece of linen cloth well soaked in the said water.

If the wound happens to be deep, or comes even to be a fistula, force in some of this water warm, with a syringe, and apply a cloth as before directed, and it will cure it.

For a green Wound.—The ointment of tobacco is excellent on this occasion, and is even good if any of the sinews are hurt; therefore a farmer who keeps cattle, should not be without it, nor oil of turpentine.

Bees-wax, rosin, fresh butter, or hogs lard, with turpentine, make an excellent plaister for fresh wounds in cattle; and

it is remarkable, that upon the application of this ointment, no flies or insects will come near the wound.

For Diseases of the Eyes, &c.—When you perceive the eyes of the cattle to be sore, and flowing with water, take of white copperas the quantity of half a dram, in the lump, and infuse it in spring water, and half a pint of wine; wash the eyes of the beast with this water twice or thrice a day. But if the eyes are much inflamed, wash them with eye-bright water, mixed with an equal quantity of the juice of house-leek. Or where there is danger of a pin or web, or when a beast has received any cut or stroke across the eyes, use the following powder:

Take a new laid egg, and having taken out half the white, fill it up with salt, and a little fine flower of ginger; wrap this in a wet cloth, and roast it hard in some warm cinders or embers; then beat it to powder, shell and all, and when it is finely pulverized, keep it closely stopped in a bottle for use. When you use this powder, blow a little of it through a quill into the eye of the beast, especially

especially on that part which seems the most inflamed.

For a Lameness, or when Shoulder-pitched, &c.—Take oil of turpentine two ounces; oil of peter and oil of spike, of each the like quantity; mix these with six ounces of linseed oil, and anoint the grieved place once every day till it is well, Or take nerve oil and linseed oil, of each a like quantity; mix them well together, and anoint the injured part once a day, keeping the mixture warm whilst you use it.

For a broken Bone, or misplaced.—When the bone is set right, use the following preparation: burgundy pitch and tallow, of each a like quantity; put to them as much linseed oil as when they are well mixed will make a salve, which is to be plaistered over the afflicted part. When this is laid on, splint it, and cover it with a woollen cloth, and keep it on twenty days, in which time the bone will be well knit.

For swoln Cods in a Bull.—Take two quarts of strong old beer, in which put a handful of the young shoots of elder, with two handfuls of the bark taken

from the woody part of the common blackberry bush; boil these gently till half the liquor is consumed, then strain it off and keep it for use. Some, when they use this remedy, add a little oil of roses and elder buds, or oil of elder, when the buds cannot be had.

The parts must be bathed morning and evening, with the liquor made pretty hot, and the grieved part bound up afterwards in a double linen cloth that has been well dipped in the liquor. When the swelling is pretty well abated, use a charge of brandy and soap, applying it very hot, which will finish the cure, unless the cods happens to be much torn or wounded, in which case, it is adviseable to geld the bull.

For the Canker, &c.—If the canker happens to come upon the tongue of a cow or bullock, it will soon eat it asunder, if not timely prevented: the cure is this; take of the inward bark of elm one handful, boil it in a quart of rain water till it comes to a pint; put to this, when it is strained off, half a drachm of white copperas finely pulverized: and always remember, when you use
this

this remedy, to wash the beast's tongue with fair water soon after, which will prevent its swelling. This medicine being very acrimonious, it will be proper to cast the bullock before you use it.

A Salve or Charge for a Wound by a Stub or Thorn, where some parts of them are supposed to lodge in the Wound.—Take black flugs from commons, with as much black soap; beat these together till they are well mixed, and make a salve, which apply to the wound.

For the Cramp, or Pain of the Sinews.—You may rub his knees, thighs, and legs, with salt and oil till he is well.

Knees or Joints swelled.--Bathe them with warm vinegar and linseed oil, or millet beaten and laid to it; with water and honey. If there be any humour under the swelling, leaven or barley meal soaked in water and honey, or sweet wine, may be laid to it; and when it is ripe, it must be opened with a sharp knife, and healed as before. All swellings generally, if they are not broken, must be dissolved whilst they are new, with baths and fomentations; and if they

they are old, they must be burned, and the burning anointed with butter or goat suet.

If the ox chance to hurt his heel, or his hoof, stone pitch, brimstone, and greasy wool, should be burnt upon the sore with a hot iron. The like may be done when it is hurt with a stub, thorn, or nail, being first plucked out; but if it be very deep, it must be opened wide with a knife.

For the breeding and increasfing Milk in Cows.—Draw a whey with strong beer and milk, in which boil anniseed and coriander seed, finely beat to powder, with an ounce of sugar-candy well pulverized; give a quart of this medicine to a cow every morning, which will not only make her milk spring freely, but will greatly increafe it.

A Purge for a Cow or Bullock.—Take butter, tar, and honey, with a little soap; mix these well together, and give two balls in a morning, as big as pigeons eggs.

You must observe, that in all distempers which require inward application, the beast should be kept warm for six

or

or seven hours after any medicine is given. And the greatest care should be taken, when you lay on any charge, that the beast does not rub the part against any thing.

C H A P. XII.

Method of Stocking a FARM of One Hundred Acres of Pasture with CATTLE to fat for the Markets, according to the Manner in Essex; with the Expence and Profit.

THE common allowance for summer feed, is one beast to an acre and half; so to an hundred acres there must be sixty-six beasts, either steers, heifers, or bullocks, to be bought in any time from the beginning of April to the end of May, and not later. These cattle should be such as will answer the weight of seventy-five or eighty stone each beast, when they are fat, at eight pounds each stone. The time allowed for fatting these cattle is four months; and the first price of them is about four pounds per beast.

When these are sold off, the ground will lie idle till October, and then you must stock it with small cattle, such as are brought from Scotland or Wales, about

about that time of the year. To each of these you must allow three acres for winter feed; besides now and then a little hay in hard weather, to keep them from licking themselves, which they are apt to do, as soon as they rise from laire to their hurt, by bruising themselves, which makes them waste and grow lean. These will be fit for sale about February, and will then weigh about forty stone a piece. They are bought in at about forty shillings a head; and the number for one hundred acres is thirty three.

At the same time, to follow these small cattle, buy in sheep, to eat up the remaining part of the herbage, allowing two large wethers to each acre, which must be bought in very forward, or fat; for if we take them from the fold, or the fallows, these pastures will give them the rot. In the purchase of these it is not pretended that our pasture should fat them, but only keep them till they will sell well at market, which will be the February following. Of these must be two hundred, to be bought in for about fourteen pounds per score.

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You must observe, that all your pastures should be clear of cattle by the beginning of March, or the middle of that month at farthest, according as the season is forwarder or later; for if the cattle were left long enough to nip or bite the young spring of the grass, it would weaken and spoil the summer crop.

An Account of the Expence and Profit that may arise by the Stock beforementioned.

	£.		£.
To 66 steers, &c. at 4l.	262	By 66 steers, &c. at 8l.	528
To 33 small do. at 2l.	66	By 33 small do. at 4l.	132
To 200 wethers at 14l.		By 200 sheep at 20l. per	
per score	140	score	200
	<hr/>		<hr/>
	470		860
To one year's rent	100		570
	<hr/>		<hr/>
Expence	570	Profit	290

Expence

Expence and Profit of a Dairy Farm of One Hundred Acres of Pasture.

	£.	s.		£.
To 66 cows at 5l.	330		By 66 cows at 3l. per head	198
To implements, &c.	40	14	By 66 calves at 1l.	66
To ten sows and one boar †	13	15	By 180 pigs at 12s. †	108
			By 200 sheep at 20l. per score	200
Stock	384	9		572
				253
			Profit	319

To 200 wethers at 14l. per score, to follow the cows, &c.	140
To one year's rent	100
To one year's wages for 4 servants, one man 4l. and three maids 3l. each	13

Expence and Profit of 50 Acres of Meadow Ground, in the Northern Part of Essex.

	£.	s.	d.		£.	s.	d.
To making the first crop of hay	8	6	8	By 100 loads of hay, first crop fold in the field at 2l. per load	200		
To making the second	8	6	8	By 50 loads do. second crop at 1l.	50		
To rent	100	0	0				
					250		
Expence	116	13	4		116	13	4
				Profit	133	6	8

† Instead of sows you may stock your yard with pigs to rear, and buy 60 at about 6s. each, though the general allowance is a pig to each cow; but the keeping of sows will, upon trial, prove to be most profitable.

‡ Allowing each sow to farrow twice a year, and have nine pigs each fare, sold about six months old.

For

For mowing (at a medium) per acre	s. d. 2 0
For making, or tedding	1 4

 3 4

N. B. If carried home and stacked, three shillings per acre is allowed for carting and stacking, which for fifty acres amounts to, £. 7 10s.

Expence and Profit by the first Mowing of 50 Acres of Meadow, and feeding Cattle in the Winter.

	£. s. d.		£. s. d.
To making the first crop of hay	8 6 8	By 100 loads of hay at 2l.	200 0 0
To 18 bullocks for the winter grafs at 4l. each	72 0 0	By 18 bullocks at 8l.	144 0 0
To 200 wethers at 14l per score	140 0 0	By 200 sheep at 20l. per score	200 0 0
To rent	100 0 0		<hr/> 544 0 0
Expence	<hr/> 320 6 8	Profit	<hr/> 320 6 8
			<hr/> 223 13 4

N. B. Four wethers are allowed to one acre, as this grafs is doubly as good as pasture ground; and for the same reason bullocks are bought in large.

Expence and Profit of 100 Acres of Woodland (where the Rod is 16½ Foot) in Essex, for the Underwood only, at 5s. per Acre per Annum, Ten Acres of which may be cut yearly.

	£. s. d.		£.
To felling and ringing ten acres at 8s.	4 0 0	By 80 ranges of wood at 1l.	80
To the woodward for 80 ranges of wood at 1s.	4 0 0		<hr/> 41
To tythes	8 0 0	Profit, without any expence of carriage	39
To one year's rent	25 0 0		
Expence	<hr/> 41 0 0	H	The

The woodward is allowed a shilling a range, as above, (called stub-money) for his care in looking after the wood, and keeping up the fences.

Take notice that the clergy pay the stub-money, for every range of wood they have a claim to, which is every tenth.

C H A P. XIII.

A particular Account of the Implements necessary to carry on the Business of the Dairy Farm before-mentioned, with the Price of each.

	£.	s.	d.
S IX milking pails, which should be made of ash, with iron hoops and bails, about five shillings a piece	1	10	0
Three cheese tubs, to hold about fifty gallons a piece; to be made of ash, about fifteen shillings each	2	5	0
Three stands to set these tubs upon, at ten shillings each	1	10	0
One large barrel churn and frame, about	2	10	0
One upright or hand churn, about	0	7	0
Three leaden cisterns (but glazed vessels are much better) to set milk in, with frames to them, at about three pounds each	9	0	0
Four cheese presses, thirty shillings each	6	0	0
Twenty-four cheese moots or fats, about five shillings each	6	0	0
A copper to warm the milk in	5	0	0
Twelve earthen pans for the cream, at about two shillings each	1	4	0
Two straining dishes or sieves, about one shilling each	0	2	0
A cheese ladder for straining the milk	0	1	0
Six straining or skimming dishes, at sixpence each	0	3	0
Cheese cloths and turning cloths, two dozen of each sort, about eight-pence each	0	16	0
Carried over	36	8	0
Brought			

	£.	s.	d.
Brought forward	36	8	0
Four double hanging shelves for cheefes, at ten shillings each	0	0	0
Twelve milk pans to fet the milk in when the dairy is low, at fix-pence each	6	6	0
And in the cheefe chamber four large hang- ing double shelves, at ten shillings each	2	0	0
	<hr/>		
	40	14	0

To one man and three maids, which are
sufficient to attend this dairy, according to
the rule of the north part of Essex; the man
4l. the maids 3l. each per annum

13 0 0

N. B. By the two accounts of the expence and profit
of fifty acres of meadow, &c. you will easily perceive
the extraordinary advantage that may be made of the
same land by a different management, the profit in the
one, exceeding that of the other full 90l. 6s. 8d.

C H A P. XIV.

*Of Cream and Butter, with the best Manner of
ordering them.*

IN April, when the cow goes first to
grais, about twelve quarts in a day,
Winchester measure, is good milking for
a new milch cow; and this, if well
skimmed, yields about the sixth part, or
two quarts of cream, which will make
almost two pounds of butter.

In the best butter countries they churn
twice or thrice a week, taking off the
cream with a fleeting dish every morn-

H 2

ing,

ing, and putting it into glazed earthen pans, which keeps it from souring, and makes it bring the best butter. Leaden cisterns and brass vessels are apt to give the milk an ill taste; therefore to make butter in the highest perfection, I would advise every master of a dairy, to set his milk always in glazed vessels, and keep his cream to the churning time in pans of the same sort.

There is no better way of making butter than by churning or beating the cream; and this should be done in the most constant and gentle manner possible, for to beat the cream too violently, will make the butter like grease; whereas a gentle and regular beating will render it more firm or stiff; and besides, when the cream is beat with too much hurry, the butter will ferment, and presently change to be of a bad state; but if gently and regularly churned, it will be firm, cut like wax, and fit for keeping. Again, it is to be observed, that as the beating of cream, to bring it to butter, is only to separate the oily from the watery parts of it; so when once you begin to beat the cream,
you

you must continue to beat it in the most constant manner you can, till the butter is made; for if you leave off but a minute, the oily and watery parts will return to one another, and will require as much labour to separate them as before.

It is sometimes difficult to have a dairy so disposed, that it may be cool enough in summer to raise and keep the cream in good order, and warm enough in winter to do the same thing; by which we may suppose, that there ought to be a certain temperature of air, or degree of heat, to divide the oil or buttery parts from the aqueous parts of the milk.

In hard winters, when it has been difficult for cream to raise upon the milk, or even to churn that cream into butter, a lady of my acquaintance in Essex had the good fortune to judge so philosophically on this occasion, as to have all her dairy removed into a vault under ground, where the external cold air was excluded, by which means the cream did rise upon the milk in as great quantity,

and in the same time, as it used it to do in summer; nor was the butter longer a coming in the churn in the most severe weather, than it used to be in the summer season in the dairy. This may be of great use to those who have dairies, and bring butter to the markets all the year round.

The time of churning should be early in the summer season, because too much heat will prevent the separating of the butter from the milk, as well as too much cold will prevent the same in the winter. Some set their churns in the winter near the fire, while they are churning, to bring the butter the sooner; others warm their churns with hot water, before they put the cream into them; others, during the time of churning, set their churns in vessels of hot water. But I approve extremely of the method of churning, when the weather is cold, in a warm vault, because it saves abundance of trouble; and besides, the milk being set there for cream, will not turn rank, as butter that is made otherwise will do.

In Cambridgeshire, when the butter is come, it is taken out and washed, if
for

for present use, otherwise not; and with a fleeting dish is drawn backwards and forwards in a bowl, a little at a time, to let out the butter milk, and the cleaner that is got out, the better is the butter, and the fitter for keeping. Then it is salted, and a quart of salt, which is about the fifteenth part, will serve thirty pounds of butter, but some put more or less; and when salted, it is drawn over again with a fleeting dish once or twice, then weighed into pounds, and rolled into long rolls of three quarters of a yard, or a yard long; then in hot weather it is put into a basket, and hung all night in the well, within a yard and a half of the water, which will make it stiff; and in these long rolls it is carried to market, to be cut into such sizes as are thought proper.

In the same county, at Overespecially, they keep a middling sort of cows, sell many off at Michaelmas, and buy others that will calve in every month of winter, that they may have butter enough to serve the colleges. And by hay feeding, they
have

have almost as much butter in winter as in summer, and as sweet and yellow (for new milch cows make yellow butter) as others generally have in April.

The mistress of a famous dairy in this county (their butter not keeping so long as that of Suffolk) used to make it into balls of thirty or forty pounds weight, and salt it a little more than for fresh butter; and this she laid in the middle of a bin of flour, and it would keep good all the winter. Others salt it as usual, and put it in pots, covering it about two inches high with good brine; but this will not keep so well as the other.

Sweet and new cream will make very pleasant butter for present spending; and if it stands till it is sour, the butter will be very good, and keep longer, if it be not over heated in the churn; but if it once turns bitter, it is good to spend it presently, for it will soon decay.

Some churn new milk, which makes the best butter; but it will not keep.
It

It is observable, that whenever butter begins to turn oily, it at the same time is disagreeable to taste, and becomes rancid more and more, as it is kept; which nothing can recover, but frequent bathing and washing in salt and water.

If you propose to have good butter, to be laid up for winter use, the best time to make it is, when the cows feed upon the rowings; but butter made at such a season, must be well cleared of the butter milk, or it will not keep good, notwithstanding the salting.

A considerable profit might be made by this kind of butter, if washed from the salt as it is wanted, and sent to market either in rolls or dishes. To preserve this butter in perfection, you must put it up as soon as made, in casks or such other vessels as will keep out the air, and deposit them in a cool place.

If salt butter be well washed, and then beat up with new milk, it will taste like fresh butter.

C H A P. XV.

Receipts for making several Sorts of Cheese.

The original Receipt for making the famous Stilton-Cheese, allowed to be superior to every other Cheese, either foreign or English make.

TAKE ten gallons of morning's milk, and half as much sweet cream, beat them well together, and add as much spring or river water as will make the milk a little warmer than the milk from the cow; you must then put the rennet to it, made strong of mace, in the following manner, viz. In the boiling of the rennet liquor, a good quantity of mace must be put into it, and not infused only, as some people imagine. When the milk is come, break the curd with a fleeting dish, or otherwise, as small as you would do for cheesecakes, and after that salt it and put it in the cheese vat, pressing it for two hours.

The whey must then be boiled, and when you have taken from the boiling whey such curds as will rise in it, (commonly called wild curds) put the cheese into the whey, and let it remain there for half and hour; then put it
again

again into the press, and when you take it out, bind it up close on the sides with linen rowlers, turning it upon boards of oak, ash, or beech, but by no means upon deal, on account of the turpentine. This cheese must be turned twice a day for the first month.

As to the fashion of this cheese, it is about eight inches high, and about seven inches the diameter over the top; generally weighs eighteen pounds, and is sold at twelve pence per pound, by all that make it in Stilton; though the true method of making it, was followed but by one house that I could find, when I was there.

It is so soft, that when you cut it at a year old, or about the Christmas next after the making, you may spread it upon bread like butter.

It is a common custom when the cheese begins to dry, as it will do about ten weeks or three months after making, to cut a hole in the middle of the top, and scoop it down within an inch of the bottom, about an inch wide; then pour in a quantity of sack or canary wine, or tent, till it rises within an
inch

inch of the top, which must then be stopped down close, with part of the cheese that was taken out, and put in a good vault or cellar. Some rather chuse to do this work after the cheese has been made four months; and what is very remarkable, when you come to cut or scoop it for use, the hole that was made to put the wine into it will not be perceivable.

To make Angelot Cheese.

Take the stroakings of two or three cows, and set the milk with rennet, when it is newly milked; and when it is come, take it up with a skimming-dish, without breaking the curd, and then fill by degrees a narrow high cheese moat or vat, continually filling as the curd sinks, till the moat is full. If you would have the Angelot thick, the vat should be six, eight, or ten inches deep, according to the size you desire to have it. You must continue filling for three or four hours, then let it stand till night, strowing a little salt upon the end that is uppermost, and turn it by clapping a trencher to the
same

same end of the vat, and then salt the other end, and so let it remain nine or ten days without removing, lest it should crack or break; by which time it will shrink and slip easily out of the vat. After this, keep it in a temperate place, that it may dry by degrees.

The proper season to make this excellent sort of cheese, is in the beginning of May or September. If you would have it fatter, add a fourth part of cream.

To make Cheshire Cheese.

The milk is strained into a cheese tub, as warm as they can from the cow, to which is put about six spoonfuls of strong rennet, and then it is stirred well with a fleeting dish, and afterwards covered close with a wooden cover, made fit for it; and about the beginning of June it stands three quarters of an hour; but in very hot weather, less time, and then it will be come; after which it must be broke with a dish pretty small, and then it must be stirred, gently moving, till it is all come

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to a curd; then it must be pressed down with the hands and dish gently, let the whey rise over white; and when all the whey is drained, and the curd pretty hard, then it must be broke into a vat, very small, and heaped up to the highest pitch, and then pressed down with the hands, gently at first, afterwards harder, till as much whey be got out as can be that way, and yet the curd be at least two inches above the vat; otherwise the cheese will not take press, that is, will be sour and full of holes or eyes. This done, it must be put into one end of a good flaxen cloth, and covered with the other end; and then the cloth must be tucked in with a wooden cheese-knife, that it may be smooth, and yet keep the curd quite in. Then it is pressed with the weight of four hundred, or thereabouts, and let to stand thus from morning about nine, till afternoon about two o'clock; and then taken out, turned into a dry cloth, and pressed again till about six at night; and then it is taken out and salted well all over, else it will be maggotty, and put in the vat again, to lie in it all night;
then

then it is taken out and salted again, and so it lies in a tub, or on a dresser four days, only it must be turned every day. This done, it is washed in cold water, wiped with a dry cloth, and carried into a cheese loft to dry, where it must be turned and wiped every day till sold.

If the salt be not well washed off, it will give, and make the cheese almost always moist.

The reason of mouldiness, cracks, and rottenness within, is the not well curing, viz. pressing and looking after.

To make Cream Cheese.

The milk is strained into a cheese tub, often in the fields; and to twenty gallons of milk are put about three spoonfuls of rennet, which in half an hour will make it come. It must not be set when hot just from the cow, but when lukewarm, else it will be tough, and run to coat. When it is come, it is broke gently with a fleeting dish, stirred well from the bottom, and all one way; for if it be mashed altogether

every way, it will be lean, that is, the butter will run more into the whey. After this, it must settle about half an hour, and then a plug that stops a hole in the middle of the tub must be loosened, to let the whey run out into clean vessels. This done, the curd is put into a canvas cloth, and between two persons rolled up and down gently, till the whey is pretty well drained from it. Then it is tied up and hung on a rack to drip, still saving the whey till it has done dropping. Then it is put into a deep cheese vat, that is big enough, and a board is laid over it, and on that a fourteen pound weight, just to fashion it, and so it is left all night. In the morning this cheese is turned out nine inches thick, and with a long silken thread cut into cheeses half an inch thick, which are laid on smooth boards, and gently salted, and turned twice in a day for the first four days; and then laid on the nettles near the ground, and turned twice a day for three days; and the next day they are laid on boards to dry.

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In hot weather, eight days, in cooler, a fortnight finishes them.

To make Marygold Cheefe.

Gather the marygolds in a dry day, and pick the leaves from the flowers and bruise them in a mortar, or grind them, if you have conveniency, and strain out the juice, which must be put with the rennet into the milk, and stirred in it. The milk must then be set, and as soon as the curd is come, break it gently, and as equally as possible, and put it into the cheefe vat, and press it with a gentle weight.

This cheefe, which is made in a cloth, must be ordered like other cheeses made after that manner.

The bottom of the vat must be full of small holes, to let out the whey when the curd is put into it.

To raise the taste, and give a fine Flavour to any of the cheeses before-mentioned, you may put either pepper, mace, or cloves into the rennet-bag: or else you may put the juices of strong sweet herbs to the milk, when

the rennet is put in. The juice of marygold especially enriches the milk ; and a good quantity of mace boiled in the rennet will give the cheese a most agreeable warmth.

C H A P. XVI.

Observations on the making of Cheese.

IF the milk be set over hot, or be scalded in the curd, the cheese will be bitter ; and the longer it is kept the worse it will be. If it be set over cold, it will cut white, and eat harsh and dry when new ; but it will improve by lying, and is best esteemed of for keeping cheese.

One great fault in cheese is its heaving ; and this is most common where there is the richest pasture, and after rain ; and the best way the dairy men know how to help it, is, by pasturing sheep with their cows that the best of the grass may be quickly eaten. Another way to prevent it is, to salt them in brine, or lay them on pavements in a very cool place, especially
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in the hot months, which will keep the cheeses from fermenting, which, in my opinion, is the cause of their heaving.

It is generally held, that a moderate salting is of great use; for too much alters the goodness, too little causes corruption of the cheeses; therefore to lay them all in brine a longer or a shorter time, according to their magnitude, or the temper of the weather, would be the surest way. Some cut the cheeses after a little pressing and salt them.

Some farmers find it difficult to prevent the buttery part from running into whey, but that happens chiefly from the over pressing of a cheese; for which reason most of our best cheeses are made, by suffering the curd at first to sink almost of itself, which fixes the cream in the curd. Likewise it is a fault to put too much rennet to the milk, because it restrains the curd from receiving the more oily or buttery parts of the milk; but in such a case the farmers make butter from the whey.

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The reasons why cheese is generally made in the summer, are, first, because the cows abound then more in milk than at other seasons; that their milk is richer; and the curd will then set and close much better.

In the making of cheese you are to endeavour to preserve the hard part of it from putrefaction; therefore some in making cheese have a certain standard quantity of rennet, to a fixed proportion of milk, that the curd may be made hard to a certain degree. Consider however what I have said above, with regard to the restraining the curd by too much rennet from receiving the oily or buttery parts of the milk, as it is one of the greatest niceties belonging to the dairy.

We may observe many varieties of cheeses, partly from the dairy management, and partly from the food of the cattle. Such cheeses as are designed for keeping, the curds should be broke very small, and as equally as possible, that when the cheese is put into the vat, every part of it may be equally pressed, so that no whey may remain
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in it; for it is for want of this care, that we so often find cheese full of those hollows which are called eyes, and occasion great loss to the farmer.

C H A P. XVII.

Concerning Rennet.

IN Cheshire, they take the curd out of the calf's bag, wash and clean it well from the hairs, and season it well with salt; wipe the bag, and salt it well within and without, and putting in the curd again, all must lie in salt for three or four days, and then be hung up.

The Essex way is, when they put the curd into the bag again, to put a great quantity of salt with it, and to keep it in an earthen glazed vessel till the time of use; which is thus set to work.

If it be in the beginning of the spring when they first make cheese, they boil salt and water together, and in this they steep their bag, prepared as before; but afterwards, when they have made cheese, they steep altogether in whey

they well salted; and sometimes to make it of a flavour, they boil spices with it, but chiefly mace.

Among the several things that will coagulate milk, or set it to curd, the plant called cheeserening, or yellow ladies bedstraw, is used about Nantwich, in Cheshire. Matthiolus, page 793, says, that in Tuscany they use it to turn their milk; and in the Parmesan especially.

Gerrard, who was a Cheshire man, speaks mightily in the praise of cheese made with the above-mentioned plant; esteeming that the best which is made with it.

Some make an artificial rennet, which will also do very well; and this is by boiling goose grass, otherwise called water rennet wort, in water; to which some add the tops of sweet-briar; a spoonful of which decoction will turn about five gallons of milk, without any other help. You may put sweet herbs or spices to boil in it, if you would give your cheeses a rich flavour.

C H A P. XVIII.

*Of several Kinds of Grasses, with their Management.**Of Nonfuch.*

NOnfuch-trefoil is biennial, or lives but two years; it goes by the several names of nonfuch, black feed, and hopclover. The seeds are yellow, and covered with black husks: it will grow upon the poorest land that is; and though worn out by frequent tillage, yet it will produce good and profitable crops of grass. It makes early pasture, which is very good for cattle, especially for cows, causing great increase of milk; and the hay is very nourishing and fattening, provided it be mowed and made whilst it is full of yellow blossoms, and not over-dried, being soon made; and then it will not lose its colour, nor shrink in making, as the clover grass does, being much finer and greener. It is also exceeding good for ewes and lambs, being a sound feeding, and free from rottenness. Nor is it subject to surfeit the cattle, as the clover; and therefore it is very good, for preventing this mischief, to mix in
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the sowing one moiety of this seed with one of clover, which thrive very well together, and afford good hay and good pasturage for all sorts of cattle. It is sown in spring upon corn, and must be harrowed in with bushes, or bush harrows; and at the same time a wooden roller should be drawn over the ground to press in the seed, and to make the surface smooth. Twelve or fourteen pounds of clean seed is sufficient for an acre; but in the hulls, a bushel and a half or two bushels should be allowed. When it is designed for feed, it must not be mowed for hay, nor pastured in spring, as is the method with broad clover.

Of Saint-Foin, (Onobrychis).

This grass is also called cockshead, or French grass; it will grow upon barren, dry, strong grounds, hardly fit for corn or grass; but all clays and other cold and wet soils, though deep and rich, will not bear it. There is such vast improvement made with this seed, that grounds not worth two shillings an acre, may be made worth thirty
or

or forty shillings. It is a large and light feed, and therefore you must allow six bushels to an acre, though some allow but three or four. It is a very sweet and nourishing herb, but above all, it is observed to increase milk in quantity and quality beyond any grass yet known in the whole world: wherefore it is adviseable to keep cows upon it for a dairy. If rightly ordered at first, it will last fifteen or twenty, some say thirty years, without any emendations of dung, where the land agrees with it: but it is best to be sometimes mowed and sometimes fed. The true faint-foin is imported in great quantities from Dunkirk or Calais; and is sold at the seed shops in London, and elsewhere. There is a bastard sort in Berkshire, Wiltshire, Somersetshire, and many other counties; but it is much inferior to the true faint-foin. The seasons for sowing it, are from the beginning of August to the end of September; and in spring, from the beginning of February till the end of March; and the earlier it is sown in either season the better. In autumn, the tillage

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must be as if for wheat, fine plowed, and also harrowed; and then sow it and harrow it again to cover the seed. In autumn, it must be sowed alone without grain; but in spring, with oats or barley; and two bushels of either is enough to an acre. In spring the husbandry must be the same in all respects as for summer corn. New broken ground cannot be sown with it; but if the ground be presently turned up after the crop is off, and well harrowed, it may be fit to sow the spring following. The ground sown with this seed must be well fenced in, and secured from cattle the first year: the second it may be mown, and fed about Allhal-lontide; but if the weather proves wet, the cattle should be turned out, for fear of spoiling the roots before they are thorough strong, which will not be till the third year; but always after, as long as it lasts, it may be either mowed or fed at pleasure. When it is designed to be mowed, it must be laid in about Lady-day, and it will be fit to mow about the middle of May, if in full bloom. It is made in all re-
spects

spects as other hay, and is very good for all cattle, except sheep, as being too gross for them, breeding store of milk; but in the winter season it is good for sheep.

Great Clover.

That is best which is brought from Flanders, and bears the great red or purple honeyfuckle, its seeds being much the size of mustard-seed, but more oblong; and that of the greenish yellow colour is most liked. (Mortimer says the English seed is best; and such as is of a greenish colour with a cast of red, that which is black never growing so well). Take care that it be good new seed, otherwise your crop will be but indifferent, there being great deceit used in it by many seedsmen. You may know whether the seed be good, by trying it in a glass of water, where all that swims is to be rejected. There is a certain fly which is sometimes known to eat this seed in the ground, but that inconvenience is easily prevented, by steeping it for the space of a night in foot, and as much

urine as will make it a liquid. I advise never to sow less than twenty pounds of seed upon an acre. Many, no doubt, will object against this as a double charge, because it is common to sow no more than ten or twelve; but a man that is not quite ignorant, will easily imagine, that the thicker this little seed is sown, the thicker it will spring, and the better keep down all weeds and common grass, and consequently become of double advantage.

I advise to sow it in August or September, and alone (instead of sowing it in the spring, and with corn) which has many conveniencies; it will rise thick, and swarth the ground, before the hard weather comes in, and thereby not only gather strength to defend itself against the winter frosts, but will be so early in the spring, that you might mow it the first time in the very beginning of May, or perhaps sooner: it is fit to cut when it begins to knot.

When the first hard frosts have bound the earth so fast that you may bring horses upon it without damage to the roots of the clover, this is the very point
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of time in which you should bestow about eight or ten load of sea ouse, sea sand, sheeps dung, &c. upon every acre, if heavy land; if light land, chalk, marle, clay, &c. taking care to spread it as equally as may be, that when the frost dissolves, the rain may drive the strength of the manure into the earth, which in the tender infancy of her new turf will easily admit it, to the nourishment of the roots and surprising increase of the clover, both as to quantity and sweetness.

Three years your clover thus managed will thrive amazingly, and produce an unexpected profit; but let not that tempt you to continue it longer. At the end of the third summer break it up, and after two plowings sow it in spring with barley; take two crops of wheat successively, and then without manuring lay it down with clover. Always observe an alternate husbandry; three years plowing, and three years clover. You cannot guess the advantage which will accrue, by a strict adherence to this one rule. Your land so managed will for ever retain its full

vigour, yearly afford the largest crops, and never fall under a possibility of being worked out of heart: a fate, which almost all the lands in England are forced to submit to, by the present practice.

This is a very profitable grass, and will produce three or four crops in a year, that is, three to mow and one to feed cattle the following winter.

It very much enriches ground, and chokes up and kills weeds. It succeeds best on a good loamy soil, but will grow very well upon chalky, and most other kinds of land that will bear corn.

It is good food for cattle, sheep, and swine, either in the green herb or hay, and causes great increase of milk.

When cattle are turned in to feed at large upon it, this must be done gradually, and with great caution; for if they are at once removed from common grass into this, they will over-feed upon it, and even burst themselves. They are therefore to be put in at first only for half an hour in the middle of the day; the second day they may be left in an hour, and the third two or three hours.

hours. After this, for three or four days, they are to be turned in as soon as the morning dews are off the ground, and driven out again before the evening dews fall; after which it may be safe to let them remain in it entirely.

It is no bad method some have of sowing rye-grass with clover, as it prevents it from blowing (swelling) the cattle. This upright grass grows well enough among the branches of the clover, shooting up its stalks above it, and being eaten with it, takes off from its too great richness, at the same time that it makes the crop the larger.

In the plowing for clover, you must lay the land as level as possible, and sow the seed soon after the plough, harrowing it with a bush harrow, and at the same time a roller should be drawn over the ground to press in the seed, and to make the surface close and smooth.

This herb will blossom and bring seed the first year of sowing; but when you have a mind to save seed from it, you must cut the first crop as soon as the clover begins to knot or joint, and
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the crop following must be left for seed; when you can cut it only twice, because of the time the seed takes to ripen. You must remember to let it stand till the seed is full ripe. An acre will commonly produce about five bushels of clean seed.

Though this herb be cut close, it is not long before it springs; and when the last cutting every summer, either for hay or seed, is over, the best management to preserve it is, to turn in cattle upon it, to feed it bare before winter comes on, lest it grow too rank to bear the frosts, and then it will be safe: for the frosts, though they often destroy the leaves of the clover, yet never hurt its roots, unless they happen to lie bare.

This grass takes up more time and labour in the making into hay than the common grass, and must be well attended.

The clover that is intended for seed, must be preserved dry all the winter, and in March it is to be threshed for the seed. What seed first comes out is to be cleansed from the straw, and the

the husks then are to be threshed again. When all is obtained that can at one time, let the straw be well dried in the sun, and tossed about with a rake; and then on the threshing it again, more seed, in considerable quantity, will be obtained.

Clover or Honeyfuckle Grass with White Flowers.

This grass may be frequently seen growing with the common red honeyfuckle or marle grass, but not near so common. Many farmers like to see it in their meadows, and think it better than the red honeyfuckle. If any person has a mind to try this large white honeyfuckle grass, he must look into some meadow, where it grows naturally, and may stand till it is ripe; the roots should be marked when they are in flower, and when the seed is full ripe it must be gathered by single heads; and the April following it may be sown in a little plat of ground, which will produce seed enough to begin with: afterwards it may be sown and saved in any quantities, as easily as broad clover.

Lucern (Medica) by some called Medich Clover.

For sowing this feed, observe the same method in ordering the ground as for other feeds. It must be sown about the middle of April; and some oats may be sown with it, but not so great a proportion as with other feeds. The land must be well dressed, and at least three times fallowed. It may be mown twice or three times every year, and fed all the winter; the hay, if well made and ordered, is good fodder for all kind of cattle; and there is no plant which increases the milk in cows so much as this, or will fat oxen so soon. It must be given with a caution at first, for fear of surfeiting; so that it is best to be mixed with two thirds of barley straw for a fortnight, afterward an equal quantity of straw will do. An acre will serve three horses all the year at pasturage, and will soon raise them to flesh and make them fat. It is of a warm nature, very nourishing and useful for fattening sheep, as not being apt to rot them.

If it be mowed but once a year, it will last ten or twelve years; but if oftener, not so long. The lucern in the field is also very serviceable food for cattle: it thrives in all the different soils that can be met with. I can't say that it grows equally strong in every soil; but where it thrives least it is much preferable to any grass or clover that ever grew there before it. It is particularly a great improver of hot burning lands, which lie much exposed to the sun, having a very juicy stalk.

The first year of sowing it will be about eight inches high in two months; but don't cut it too soon, lest you weaken the root. The second year, if it is upon the soil it likes best, you may cut it three times, and leave a large crop upon the ground for winter. You must sow one fourth less than you do of the great clover, and it may be sown like it.

The time of grazing upon the lucern, is from the end of September till the end of February, or a week later at farthest; and turn your cattle into the
field

field as soon as you have carried in your last crop of hay from it.

Horses feeding upon this grass in the spring, are purged by it better than by any other grass; but they will be brought to it discreetly, and allowed the use of it very moderately at first: but it gives a horse clean flesh and a gay appearance.

After the second cutting of the lucern each year, you may if you please let it stand for seed, which will ripen the same summer; then cut off the heads of seeds, and let them dry upon sheets or bays mats, and thresh them out. Or else there is a mill, such as they use for clover seed, which will clear them from the husk much better. It is to be noted, that as soon as the heads of ripe seeds are cut from the plants, the lucern must be mown and made into hay, taking care to turn it often, that it may be thoroughly dried before the hay is carried into the barn; for it will not do well in a rick or cock. After this crop is mown, it will presently recover itself for a winter grass for cattle. The hay,
if

if it is well dried, will keep very well two years.

Another method of ordering and sowing lucern, which is by some thought preferable to the foregoing :

Chuse a piece of land that is warm, pretty deep, and dry ; let it be fenced, and plowed a foot deep ; or if it is a small piece of land, it may be trenched by men sixteen or eighteen inches deep ; let the surface be made very smooth, either by harrowing or raking. Then with a gardener's hoe draw small drills about an inch deep, and a foot and a half apart, all across the land ; and, if possible, the drills should run north and south.

The seeds must be scattered equally through all the drills, and covered over about half an inch deep with the fine earth that came out. Six pounds of seed is full enough for an acre ; for it must not be sown too thick. The beginning of May is the best time to sow this grass, but it might be deferred a month or two longer if the land cannot be prepared sooner.

In about three weeks or a month after sowing, the lucern will appear in rows, when the ground should be carefully hoed, and all the weeds and wild grafs that come up among the lucern in the rows pulled up by the roots with the fingers. If the lucern should come up too thick in some places, and too thin in others, the young plants, where they are too thick, should be carefully raised up with a trowel, &c. and planted where the rows are too thin; and at the same time they should be watered; but if the seed should come up too thick all over, it must then be thinned with discretion. Hoeing and weeding should be frequently repeated, if the ground requires it.

The crop that was sown the beginning of May will produce flowers in August, when you may begin at one end of the piece to cut, and carry it to the animals that are to be fed with it. By cutting a parcel every day, you should go over the whole in six or seven weeks time, when you may begin again, and go on as you did before. In February the spaces between the drills should be dug,

dug, and the weeds that grow among the lucern roots picked out, and buried at the same time. About the middle of May following (and sometimes sooner) you may begin to cut again, and so day by day till you go over the whole. This grass will, in this manner, afford four or five cuttings every summer, beginning in May and ending in October; and so it may be continued many years, provided the spaces are dug every winter, and hoed in summer every time just after the grass is cut. Lucern seed might be sowed in England, when it proves a hot dry summer.

Spurry.

Spurry, spurgrass, or stargrass (*spergula*). This grass is well known in Germany and Flanders, from whence any one may have it. It grows about a foot high, full of branches, resembling a little bush; the flower is white, and the plants appear without leaves: the flower is succeeded by little white pods, like those upon flax, which contain small black seed, a little flat, with a whitish

border round them. The richest milk, and the best butter in Germany is produced by this feeding; and it preserves the cattle in health. It is there preferred before any other fodder; nay even before grain. The straw alone is much more nourishing than the best hay, and the very chaff is esteemed as good as corn for the use of cattle; and the grain is excellent for feeding pigeons and poultry in the winter; it will bring them to lay and breed very forward.

It is a plant of that nature, that the most barren sandy lands will produce it, and it grows as well upon the most harsh, stony gravels, as upon fallows. It may be sown any time in the summer, though the soil be never so stiff; and upon chalk of any sort. You may sow it in March or April with oats for the sake of the seed; and in August or after harvest for feeding of cattle or sheep. It is said that mutton fed with spurry grass has an excellent flavour. In a word, it is so advantageous to the husbandman, that no one should be without it; for sheep, goats, kine, all sorts of poultry, and bees delight extremely

tremely in it. The land should be made very fine and even, and the seed harrowed in with a bush harrow, and rolled; ten or twelve pounds of seed will be enough for an acre. As this grass is annual, if it be sown in March or April, the seed will be ripe in July or August.

Perennial Dwarf Trefoil with White Flowers, called Dutch Clover.

Where the land is rich, this grass will rise above a foot high, with large leaves; but if poor, it keeps close to the ground, and produces very small leaves. It is generally sown with other grass seed upon such lands as are designed to be kept for pasture or mowing. Sixteen or eighteen pounds may be sowed upon an acre. This seed being small, the land should be made very fine before it is sown, and then should be lightly run over with a bush harrow, and rolled, in order to press down the seed, and to make the land close and smooth. It may be sown in spring upon corn, or any time after till the middle of August, if the weather proves moist.

The best white clover seed comes from the Duchies of Juliers and Bergs, and other neighbouring towns in Germany. It grows thicker, lasts longer, and covers the ground better than the seed which is imported from Austrian Flanders; and is larger, and of a brighter colour.

Key Grass or Bents.

This grass will last six or eight years; and will grow upon stiff clay or gravelly soils, and succeed much better than any other sort of grass will do upon such unkind land. It produces very early pasture for most kinds of cattle; and makes excellent hard hay, if it is cut while the sap is full in it. It may be sown in spring or August. If it is sown with oats or barley, two or three bushels of seed will be enough for an acre; but if it be sown alone, four or five bushels will not be too much, for grass is always better for being thick. It is often sowed with great clover to prevent it from blowing the cattle; and does also very well, mixed with white clover, upon moist clay ground.

Birds

Bird's Foot, or Finger Grass (Fotus).

This grass produces yellow butterfly flowers, which are succeeded by three or four longish seed pods, growing on the tops of the stalks, which resemble the foot of a bird, or the fingers of a hand.

It is a lasting grass, and may be worth sowing with other perennial grass seeds. Farmer Ellis recommends it as an excellent grass for cow pasture, &c. Mr. Miller says, no animal will eat it either green or dry. Several times I have gathered many handfuls of it, which I gave directly to horses and horned cattle, and they eat it greedily.

Ribwort, or Lamb's Tongue (Plantago).

This is the narrow leaf plantain, which grows very common all over this kindom. In some countries it is sown in spring, with other grass seeds, for pasture, &c. being thought a very wholesome herb for all sorts of cattle. The seed being very small, a pound or two mixed with other grass seed will be enough for an acre of land; but alone, three or four pounds.

C H A P.

C H A P. XIX.

How to get good Hay Seed.

IF we consider that the proper time to mow grafs for hay is when the meadows are in full bloom, or just after, we shall easily perceive the impossibility of having the seed of the finest and best sorts of grafs from common hay lofts (which is the general method used to provide hay seeds) as those grasses, perhaps, were cut a month or six weeks before their seeds were ripe.

To get good meadow grafs seeds, make choice of some fine upland meadow, that is stocked with the best kinds of grafs, and free from weeds. This grafs should not be cut before the general part of the seeds are pretty near ripe, when it should be mown, and spread till it is dry enough for threshing. The seeds may either be threshed out upon cloths in the field, or this work may be done in a barn, as is most convenient. The seeds should be made clean by sifting, &c. and put up into sacks, in order for sowing. Hay seeds thus saved, must
be

be of great value; and far preferable in every respect to any other, to sow for pastures, lawns, &c. This hay will not be so valuable; but the great advantage of the seed will make ample amends for the loss.

C H A P. XX.

How to sow Hay Seeds, and order the Land.

THE best time to sow hay seeds is April or May, after the frosts are over; or in August, that the crop may get strength before winter. Five or six bushels of this fine hay seed will be sufficient for an acre. If five or six pounds of white Dutch clover were added to the hay seed it would be the better, for grass cannot well come too thick.

The land should be made very clean and fine, by ploughing and harrowing before the hay seed is sown; and if any Dutch clover or perennial trefoil are to be added, they should be sown after the hay seed; because these small heavy seeds are much easier dispersed equally over the ground alone, than when mixed with
lighter

lighter feeds. When all the feeds are sown, they should be harrowed in with bushes or light bush harrows, and the surface rolled twice in a place, in order to press in the feeds, and to make it smooth and firm.

From time to time, as bad weeds appear, they should be rooted out, and not suffered to become large and rampant. In February or March, or sooner, grass land should be rolled with a heavy roller, in order to squeeze down the small hillocks, to leave the ground firm, and to make the turf come with a thicker bottom.

Upland meadows require manuring more than pasture; and it is much better for the land, when it can be alternately meadow and pasture. Manures may be laid upon grass land any time from Michaelmas to Lady-day, as the work can be done with most convenience, but the sooner the better. The best season is generally thought to be in December, January February. For such grounds as are sandy, hot and dry, use marle, chalk, lime, or the like cold soils; and for cold, rushy, spewy, and
mossy

mossy grounds, use wood ashes, turf of sea coal; also pigeons dung, on all hot and sandy soils. And between the two extremes, i. e. hot and cold, use the common dung that is made by horses, &c.

C H A P. XXI.

Of Watering and other Particulars concerning Meadow and Pasture Land.

WHERE you have an opportunity, and engines sufficient to overflow your wet meadows, let it be done about six weeks before mowing time, and again afterwards for a second crop; but mind never to let the water lie on the ground above forty eight hours, lest it chills it.

Dry meadows being often pestered with ant hills, shrubs, fern, broom, or gorse, when they become so bad that they cannot be mowed without great loss, plough up your mole hills, &c. with a mole hill plough; then burn the hills to ashes, which may be done with the help of a little straw, &c. to set them on fire, and spread the ashes all over your ground,

ground, and harrow them in with bushes, and it will produce a good crop.

C H A P. XXII.

Directions concerning the mowing of Grass Land.

THE best judgment that can be made of the time when grass should be cut for hay, is, when you find it going to seed, or that the seed stems are full grown. Some grasses indeed are sooner ripe than others, and there is no field without mixture; but you must judge by the prevailing grass in the field, and should observe whether that is in perfection, before you offer to mow your meadow. You must likewise examine, whether the grass begins to turn yellow at the bottom, as well in the blade as in the stalk; for if it does, there must be no time lost, as it would soon spoil all the rest. The weather is next to be considered; whether it is likely to be a wet or dry season, for the whole success depends upon that. If the weather seems to be settled fair,
then

then you may cut your grafs, according to the rules of reason; but if it has been very dry for feveral weeks before, and your ground is naturally dry, with a gravelly bottom, it is then better to feed fuch grafs than to mow it, even though it fhould be nearly ripe, as the roots would in that cafe be greatly weakened by being too much expofed to the influence of the fun, and hardly produce any other crop the fame year; and the ground would alfo be fubject to crack. But if it be fed, there may likely come rain fufficient to enrich the ground, fo as to bring a good after crop; and while feeding, the air and fun will be gently admitted to the roots without fcorching them, and affift the cattle at the fame time in fuch a manner, as may make them perhaps as much more valuable as the price of the meat they feed upon would amount to. But fuppofe every thing concurs for the mowing of grafs; you muft let it lie as thin as poffible at firft, in the day time, if the weather is fair, and againft the evening make it up at firft in fmall cocks, which muft be fpread foon in the morning, if the fair
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weather is likely to continue; but if the weather inclines to rain, let it remain in cocks till it is fair. By degrees in good weather, as the grass grows dry, the cocks may be enlarged, till at length the hay is quite dry, and fit to carry into the barn, or be made in ricks. But particular regard must be had to the dryness of the hay before it be carried in; for if any moisture is remaining in it, it will be subject to fermentation, and burn all your store.

The upland grass will be much sooner made into hay than the lowland; for the grass of the uplands is generally fine and small, and has few juices in comparison of the lowland or marsh grass. So the trefoils, clovers, faint foin, lucern, and other French grasses, will take more time to dry than any of the common grasses, because they abound in juices.

C H A P. XXIII.

Directions about mixing foreign Grass Seeds, when intended only for Hay or Pasture, and not for Seed.

SOME farmers sow ten pounds of broad clover, and one bushel of rey grass or bents upon an acre. This mixture, they say, prevents the clover from blowing the horned cattle, when they have liberty to pasture intirely upon it.

In Buckinghamshire they sow five or six pounds of great clover, three pecks of black seed (which is nonsuch in the husks) and half a bushel of rey grass on an acre. This, they say, makes both exceeding good hay and pasture.

Eight pounds of nonsuch trefoil, and the same quantity of great clover allowed for an acre, make good wholsome pasture for all sorts of cattle; and, if cut when the trefoil is in full bloom, very fine hay.

Two bushels of rey grass, and one bushel of black seed, or eight pounds out of the husks (which is much the same) allowed for an acre, will produce exceeding good forward pasture, and

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likewise

likewise the best hay. If the rey grass is a full crop, it may remain upon the land several years. I have observed both rey grass and nonsuch will succeed well on cold, stiff, chalky, or gravelly land.

Six pounds of nonsuch trefoil, sown with faint foin, upon an acre, would be of great advantage to the first crop of hay. The quantity of faint foin seed need not be lessened for this ; because the trefoil will be gone after the first mowing.

Those foreign grass seeds mixed may be sown with corn in the spring, as is before directed.

Some farmers make no allowance for grass seed, but sow the same quantity of corn upon an acre, as if there was none; when they might save at least one third of the corn, and both crops would prove the better.

C H A P. XXIV.

Of SHEEP, and the several Ways of ordering them.

THE difference of stature and other qualities in sheep, proceed chiefly from the diversity of pasture.

The fat pastures breed strait, tall sheep, and the barren hills and downs breed square short ones; woods and mountains breed tall and slender sheep: but the best of all are those bred upon new ploughed and dry grounds; for all wet and moist lands are absolutely bad for sheep. The same sort will grow more in one pasture than another, and as that happens to be, so they will sell for more or less in the markets; where the largest size and the fattest sheep always fetch the most money. The smaller sheep have the most agreeable flesh and the finest wool.

It is hazardous to venture sheep from a small bite to rich pasture too suddenly, for that often brings upon them the mortal distemper called the red-water.

Sheep fed upon a chalky soil yield a fine flesh, an extraordinary fine wool,

and are never subject to the rot; but being introduced by degrees into richer pasture, and at proper seasons, will enlarge their bulk.

Let every farmer keep his sheep from such grass as is made gritty by the overflowing of waters; and in the course of their feeding keep them upon the highest and driest land in the wet seasons, and allow them only the low rich lands at the dry time of the year, if you have a mind to keep your flock sound.

To know ROTTEN SHEEP when alive.

First, Examine the eye; if the sheep be sound, the fibres about the white of the eye will be of a bright red, and the eye full and clear; but if the eye be hollow and of an ordinary tallow colour, and the blood vessels look of a darkish red, tending towards the black, the sheep is then certainly rotten.

Secondly, Open the wool on the side towards the breast, and if the flesh looks red, or of a ruddy colour, and is dry, then you may judge it sound: but if it is pale and the skin moist, then it is surely rotten.

Thirdly,

Thirdly, If you open the wool on the side, and rub it between your fingers, and then pull a little of it gently, it will easily leave the skin if the sheep be rotten; but if it be found it will hold fast to the side.

Fourthly, their teeth will appear discoloured, and their gums declining, if they are rotten; but if they are found, the gums will be firm, and their teeth of a fair colour.

To know them when dead.

First, When a sheep is killed, and you find the belly full of water, it is surely rotten.

Secondly, The fat being yellow; rotten.

Thirdly, Small worms in the liver, of the shape of flounders; rotten.

Fourthly, Liver full of knots, or white blisters; rotten.

Fifthly, If the liver will break in pieces with the hand; rotten: but if it holds together, it is found.

Observe, that wherever the spurwort or (to be sure of the name) the samula grows, which for the most part is found
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in wet grounds, there the sheep rot. So likewise the pennywort or nummularia is poisonous to sheep; the places where these grow, are always too moist for sheep, and are never seen but in such grounds as are subject to waters.

It is dangerous to turn sheep out of a fold while there is any mildew upon the grass. Let the sun first shine an hour or two upon it; and then chase them gently up and down with your dog, till they are weary, before you suffer them to feed.

It is also dangerous to let sheep feed upon fallows, whether the land be light or strong. For where the land is light, they frequently pull up the herbs by the roots, and eat the roots with the dirt that is about them, which will certainly give them the rot. And if the fallows are strong land, and there should not happen to be grass enough for them, hunger would then force them to eat unwholesome herbs that would give them the hunger rot, which is the worst distemper of all, as the skin will thereby become unprofitable as well as the flesh. As for pasture sheep, they seldom rot but
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by mildew, and when that happens, the skin and tallow will be worth something.

There are great numbers of white snails and slugs in some pastures which will distemper the sheep; they breed about April and August, or September, and when they are smallest, the sheep are in most danger, as they may then more easily take them in with the grass.

The pelt or pellet rot is occasioned by great wet only; it happens for the most part in woody countries, where the sheep have too much shade, with a moist air, and cannot have an opportunity of drying themselves.

Thus we find it is necessary to buy sheep out of the dryest soils, and free from the evil plants, and especially from the poorer lands; for you must observe, that no cattle will thrive that come from a rich ground into a poorer soil.

The best sort of sheep for fine wool, are those bred in Herefordshire, and Worcestershire: but they are small and black faced, and bear but a small quantity. Warwick, Leicestershire, Buckingham and Northamptonshires, breed
a large

a large boned sheep of the best shape ; and deepest wool we have good. The marshes of Lincolnshire breed a very large kind of sheep, but their wool is not good, unless the breed be mended by bringing in sheep of other counties among them, which is a scheme of late very profitably followed there. The northern counties in general breed sheep with long, but hairy wool ; and Wales bears a small hardy kind of sheep, which has the best tasted flesh, but the worst wool of all.

Sheep that are big boned, and have a long greasy wool, curling close and well, always breed the finest wool ; and are also the most approved of by the butcher for sale in the market.

When sheep are turned into fields of wheat or rye to feed, it must not be too rank at first ; for if it is, it generally throws them into scourings. Ewes that are big, should be kept but bare ; for it is very dangerous to them to be fat, at the time of their bringing forth their young. They may be well fed indeed, like cows, a fortnight beforehand, to put them in heart.

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The best time for shearing of sheep is about the latter end of June, because it is good for them to sweat in the wool before it is cut. They must be very well washed before the shearing, for this is a great addition to the price of the wool; after the washing, let them go three or four days in a clean dry ground. When they are cutting, the shearer must be very careful not to wound their skins, because this gives occasion to the flies to teaze the poor creatures in a terrible manner. Some shear their lambs the first year, especially behind; but before the doing of this, they ought to be carefully tagged, that is, their tails and thighs behind should be well cleared of wool, that the dung may not hang there, which would else make them sore, and subject them to the flies, which would blow them, and make them full of maggots.

In Gloucestershire they house their sheep every night, and litter them with clean straw. Their dung makes this a very good manure for the land, and the wool of the sheep is rendered so much
finer

finer by it, that the farmers have a double advantage from the practice.

In Middlesex, and London, they have Wayhill sheep; these come from Hampshire, Wiltshire, &c. and lamb very early, even before Christmas.

C H A P. XXV.

How to chuse SHEEP to improve.

TO be wise in your purchase of sheep to improve; after you have examined whether they are sound, chuse the ewes not above two years old, for that is the best age to bring strong and sound lambs. And after three years old I would not advise any one to buy them; you may know them to be old if their teeth are worn. The ewe, in this choice, should be full bodied, deep stapled, and the wool thick and curled on the upper parts of the body, especially the neck and the head; the belly should be well covered, for where wool is wanting in these places, it is so bad a sign, that no husbandman of judgment will buy them. The neck should be long,

long, and the legs short; for they will feed the better, and see better how to distinguish their food. You may always know the sheep that are trained upon the marshlands, by being long boned, or long jointed; whenever they are brought to market, they are fit for the butcher only.

The ram is counted best in cold bleak countries, that has his horns large and turning inward. It seems probable, that the largeness of the horns in these creatures denotes extraordinary strength in them; and for that reason, they are more capable of resisting the cold and hardships of the most violent weather. But in calmer and more serene situations, the polled or pollard sheep, whether ewe or ram, are known to prosper very well. It appears, however, that sheep with large horns are less subject to distempers than the pollard sheep. (Mortimer says they are the best breeders).

But to set forth the good properties of the ram; he should have a large body, a broad forehead, and a skin of the same colour with his wool, for the lambs will

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be of the same colour with his skin; his eyes must be full and ruddy, his ears large, his shoulders, breast, and haunches broad, his testicles large, and his tail broad and long; and his fleece, as well as that of the ewe, white, deep, greasy and close.

Black sheep are not to be chosen for two reasons; first, their flesh is coarse and ill tasted, and their wool will change red and of an ugly colour when it is wrought; and it is more expence to dye it than it is worth, and even then, no colour will hold.

When you buy sheep, though there appear to be no mark or sign of black wool about them, yet be careful to examine their mouths, and if their chaps, or tongues, happens to be any ways mottled with black, the rams especially, do not buy them; for by degrees they will bring you a mottled race, or perhaps many black sheep; the inside of their chaps, or lips, should be red.

It is becoming the prudence of every farmer, when he buys sheep, to take care that he does not overstock his grounds; for having too many, some
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of the weakest will starve, or the whole stock suffer for want of sufficient grats, and then they fall to eating poisonous weeds, and perish by the hunger rot. Neither should he keep fewer sheep than his lands will feed, for the profit made by them is very considerable; and every sheep wanting, where there is food for it, is so much loss to the farmer.

But suppose you are once well stocked with sheep, it is necessary to examine the flock once or twice a year; and when the winter or bad weather has carried off any sheep, to renew them from sound flocks, and as nearly of the size and goodness of your own as possible; for those which are nearest alike, thrive and encrease best together. You must likewise take care to discharge yourself of such sheep as do not appear to prosper in your grounds; for to keep sheep longer upon any land, than they can encrease their flesh or tallow, is unprofitable. Once or twice a year I therefore advise the master of a farm to make his general muster. But his shepherd must be watchful over them con-

stantly, lest any distemper attack them; for some distempers which sheep are subject to, will carry them off in few minutes.

C H A P. XXVI.

Of the Breeding of SHEEP.

THE breeding of sheep being one of the main articles relating to sheep keeping, we must consider that the strength of the flock will depend, in a great measure, upon the good qualities of the sire and dam, and the seasons that they are brought to blossom in; several ways of doing which I shall mention hereafter.

The ages for breeding both the ram and the ewe are, by some, judged to be in the second and third year of the ewe, the best, because then she is supposed to be in the greatest strength; and the ram from four or five to seven years old. But our common people have
little

little regard to this; for as soon as the ewe, though she be but a year old, will be blithsome, they let her go to rut, or take the leap of the ram, altho' it may be he is not older than herself. But the lambs from such are generally weakly; and the ewe loses her strength. It is likewise common enough to let the ewes and the rams run together, and breed from the first year to the ninth, without any regard to their respective ages. But it is much better to keep the rams separate from the ewes in different pastures, till such time as you design to bring them to the rut; and about a month or six weeks before you would have them couple, let them have better pasture than ordinary, which will dispose the ewe to take the ram the sooner. It is with sheep, as it is with the cow and other cattle, the female must be in a certain state desirous of the male, before the male will attempt to serve her; and this is evidently brought about, by encreasing the richness of their food some time before you would have them couple; for richness of food encreases the vigour of the body.

There are two months in the year which are either too dry or too wet to encourage those creatures to go to rut ; but they are uncertain. What I mean by the too dry months is, when the grafs upon the high lands is burnt up so much, that the sheep have not a bite, or enough to subsist them ; then put them into such pastures as may supply them plentifully with nourishment, and they will go to rut. Knot grafs is thought good for this purpose by some people, and the blades of onions, and leaves of turneps, if there are any. But if the two months happen to be wetter than ordinary, then give them oats, and good dry and short hay, rubbing their teeth beforehand with a little bay salt and water, if there is any danger, by great wets, of a rot. But if their gums or teeth are in order, do not use the salt and water, but let them have plenty of food, and keep their fleece dry ; feeding at the same time the ewes and rams together, giving them their oats in troughs lying near the ground, and their hay upon the ground in a dry place, and you will not lose your labour.

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But when sheep have dry food, they must have water by them; and in dangerous wet seasons, when they are in this dry way of feeding, put an ounce of bay salt into three gallons of water, and it will help them, as the salt marshes do other cattle. If, during this way of feeding, there happens to be a fair hour or two in the day, let them graze upon the shortest and best exposed grounds, and return to a warm sheep coat, or repose them under good shelter in the night.

To bring sheep to the rut by the most natural means; if a farmer has good winter pasture for sheep, and that springs early in the year, he may let his rams and ewes run together all the year about, to rut when they will. But if the pasture be only grass in common, then the best time to put the rams to the ewes is, when deer generally go to the rut, that is, in July. And if the farmer has only a run of sheep upon a common field amongst the arables, then it is time enough about Michaelmas. And where the country is mountainous and rocky, and nothing but heathy ground, it will
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be time enough to bring the rams and ewes together towards the end of October. The reason of this is, that the ewe brings forth her lamb in the twentieth week, so it is necessary she should at her yeaning have the benefit of springing grass, for that will afford her plenty of milk, for the improvement of her lamb or lambs; for some ewes will bring two, three, or four at a time; and where good nourishing food is wanting at yeaning time, many lambs are lost. You should therefore contrive to bring your sheep to the blossom, at such times as you judge your pastures may be in the best order to receive the lambs when they are dropped. For if a ewe wants milk at yeaning time, which seldom or never happens but when she has not sufficient food, she will forsake her lamb, and through her weakness lose her own life as well as her lamb's. But if this does not happen, and the lambs are only stunted in their growth by it, it is an accident that they never recover. In short, the best time for your ewes to lamb in, if they be pasture sheep, is about the latter end of April,
and

and so to the beginning of June. But if they be field sheep, then from the beginning of January to the end of March; that their lambs may be strong and able, before May-day, to follow their dams over the fallow grounds.

The more hardy a sheep is bred up for the pasture, the better, taking care that it does not want provision in the first part of its life.

A good shepherd is very much wanted about the season when the ewes drop their lambs; for sometimes they have need of help, and especially if ravens or carrion crows frequent, or should by accident fly over a pregnant ewe when she is about yeanning. For if a shepherd is not then present, and either of these birds should be in sight, they will assault the lambs, even before they are quite fallen, and pick out their eyes, notwithstanding the ewe's endeavours to drive them off.

Great thunders are apt to make ewes cast their lambs, if any of them should happen to be singly abroad.

It is necessary, as soon as the lamb is fallen, or dropt, to examine, whether it
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be strong as it ought; for if it is not, it should be housed with the dam. And if ewe is weak likewise, she must immediately be put to good nourishing food, which must soon produce milk for the lamb, and the lamb, in the mean while, to suckle of another ewe, which if he refuse, milk into his mouth from the said ewe; and if that won't do, anoint his lips with hog's-lard beaten up with a little milk, or with fresh butter, which last is the better of the two.

C H A P. XXVII.

Proper Times for weaning of LAMBS, &c.

WHEN a lamb is to be kept for breed in a good common pasture, you may wean it at about sixteen weeks old, to make it strong, and the ewe will have strength, and go to blossom quickly. And when the sheep are upon a poor pasture, as in the mountainous rocky countries, then the people generally wean their lambs at about twelve weeks; but the lambs are never so strong
as

as those which are suckled the full time that the ewe will suffer them.

The sheep which you have a mind to keep for rams should be of those lambs where the ewe has two at a birth. To this I say, I have known them do very well. But if the single lamb be stronger than the twin lamb, as some affirm, why will he not make a stronger ram for the rut, than where there are two at a birth? The case has been long in dispute, for which reason I have mentioned it.

C H A P. XXVIII.

The proper Time of gelding Lambs for Wethers.

THE wethers, or gelt sheep, will be larger than those which are not castrated, and will endure more wet without rotting than the other sheep of either sex. It is held the best practice to geld the lambs for wethers while they are under the dam, that is, early after they are yeaned; for the wound is more easily healed while they are very young, than when they grow more
game-

gamefome; but feveral fhepherds have feveral minds. I have known fome leave them till they have been four or five months old; but that is dangerous in my opinion. And when I fay under the dam, I mean as foon as they have fufficient ftrength to go through the operation. However, to pafs this over, every fhepherd, according to the country he has been bred in, follows the method of that country in this point, and knows how to do well in this particular.

The wether fheep turn to great profit where there is a good winter pafture for them, and the farmer has difcretion enough to make them fat againft the fpring of the year; for it is at that feafon they come to the beft market, the ewes then, for the moft part, being either fuckling of lambs or pregnant, and therefore unfit for the markets.

If you have good winter pafture, buy in wethers about October, and they will be fat by February, which is the beft time to carry them to market.

C H A P. XXIX.

Of severing of SHEEP, and parting the Flock.

AS to the distinguishing characters of sheep; at a year old they are called hogs, hoggets, or hogards. The second year the female is called a theave, and is accounted by the learned sheep-masters the best ewe that can be employed for bringing the strongest lambs. So of the male sheep, we may reckon them wedder or wedder hogs, after they are past the character of lambs, or are of a year's growth; and this name is indifferently given to the males, whether they have been cut for wethers, or whether they are designed for rams. The way is, to make the distribution of our sheep after sheering; for then we shall be better able to discover which are strong, and which are weak, and order their pastures accordingly.

The sheep which you design for feeding or fattening should be put by themselves.

The ewes by themselves; the weather-hogs and theaves by themselves;
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the lambs by themselves; the wethers and rams by themselves; for else the strongest would hurt the weakest, and not suffer them to pick the food which might be the most nourishing to them.

N. B. If in the flock any sheep happen to be distempered, let them have a pasture distinct from the rest of good fresh grass; and as they improve sell them off. It is very certain, that sheep are best improved by often shifting their pasture.

C H A P. XXX.

Of suckling LAMBS in the House.

CONSIDERING the great profit which arises from suckling or fattening of lambs in the house, it may not be amiss to say something of it in this place.

It is to be remarked, that there are four expressions commonly used among the shepherds which are not known elsewhere. As for example; when a lamb is said to be tod or totbellied, it is
clinged

clinged up. Twin bastard lambs are such as are suckled by other ewes, after having lost their own lambs. Bastard ewes are such as suckle the lambs of other ewes, or have lost their own. Sucking at head, is when a lamb sucks the first of the milk.

In the education of lambs in the house, you must contrive a warm place for them, divided into stalls, that the lambs may be more conveniently suckled. Observe likewise, that there are not too many put into the house at one time; for in such case they will become fett, or totbellied.

If you have many lambs to suckle you must mark them, to know which has been longest sucking on the bastard ewes, and those must continue to suck at head.

Care must likewise be taken that what milk the younger lambs leave, if any, be suckled by the older lambs.

If you have any bastard ewes, suckle the eldest lambs on them, beginning about seven in the morning for the first part of the day; and at four in the afternoon for the second meal. Likewise

observe, that if the bastard ewes have milk enough to suckle all your lambs at these meals, then put the lambs in only at noon, and between nine and ten at night, and out again about nine in the morning.

Let the tails and udders of the ewes be carefully clipt from the wool, to keep them clean from dirt, which they are too apt to gather in the house.

If you have any twin lambs, and dams that give but little milk, help them on the bastard ewes.

When those lambs which suck at head on the bastard ewes have had their meals, let the others, which you design to suck next at head, clean those ewes of their milk.

The best food for lambs is flour, wheat, or white pease, in troughs; and wheat straw, or sometimes fine hay in racks, but straw will make the flesh of a better colour.

C H A P. XXXI.

Of the Distempers which SHEEP are subject to, with the most approved Remedies for them.

THE Ray and the Scab are the most common distempers sheep are subject to, and both proceed from poor food; but when they have once got either of these distempers, better pasture alone will not help them, but tar prepared must be used, as well as other medicines. The scab, especially, is such a distemper, as one has good reason to judge it infectious; and therefore such sheep as are affected with it should be separated from the flock till they are recovered. If you discover a single sheep infected, remove him immediately, and give him a little bay salt finely ground, sprinkled over the first grass he feeds on every morning; and if he pines, as he will be apt to do, upon leaving the flock, let him feed two or three days before you sprinkle any salt before him.

*How to prepare Tar to apply outwardly to SHEEP,
for the Scab, or the Ray.*

Tar may be either mixed with the greafe of poultry, or goole greafe, or hog's-lard, or butter that has been made up without falt. To every pound of tar you may use half the quantity of any of the former, which must be well mixed together. Some chuse to melt their butter to oil before they mix it with the tar; and it mixes the better, and is more healing.

*To make Broom Salve, an excellent Remedy for the
Scab, Ray, or any other Distemper that appears
on the Skin of SHEEP.*

This salve is of great use to such as have large flocks of sheep; it answers the end of prepared tar, and is much cheaper than tar, where broom is to be had near at hand.

To make this.—Take twenty gallons of spring water from a gravelly soil, rather than any other, or in the room of that, as much clear river or rain water; put to this, of green broom tops, stalks, leaves, or flowers, shred small, about
ten

ten gallons, and let it simmer or boil gently, till it becomes of the consistency of a jelly, or till it be pretty thick; then add of stale human urine two quarts, and as much beef or pork brine, strong of the salt; and to these add about two pounds of mutton suet, well melted and cleaned; stir these well together for about a minute or two, till the suet is mixed, and then strain all off into such a vessel as you think convenient, to be kept for use.

How to use the Broom Salve for the Ray and Scab.

The ray happens from too much wet, or such cause as makes sheep defile their tails; the heat of the dung frequently falling, frets the parts, and lodging in the wool time after time, hurts the skin, and wounds by degrees. To remedy this, clip off the wool close to the tail, and anoint the fore parts with either of the salves mentioned above. It is good likewise to give them dry meat, with a little salt sprinkled in it, for a day or two. Likewise allum water is good to wash any sore place about a
sheep,

sheep, before tar is laid on. The broom salve answers the same ends as the prepared tar, and is preferable to it, as it does not soil the wool.

If you use either this or the prepared tar to a sheep when in full staple, shed the wool, or open it, that you may see the inflamed part, and anoint it well, and the parts about it, at least half an inch round; then close the wool again, and the distemper will cease, and the wool not be discoloured.

When a sheep is troubled with the scab, you may presently discover it by his rubbing the distempered part against trees or posts, and with his horns; and as soon as you perceive this, you should apply either of the prepared remedies above-mentioned.

The broom salve is also of great use in destroying the ticks; and the wool will not be the worse for sale.

If you use this salve to sheep newly shorn, let it be warmed, and wash the infected part with a sponge, or woollen rag dipt into it.

But as the scab in sheep proceeds chiefly from poor diet, so when you
apply

apply this remedy, give them fresh and good pasture; for good food will greatly help the cure, as well as prevent the evil. Sheep delight in shifting their pasture often, and if they have plenty, they will take only that which is wholesome for them; but otherwise they will be forced to eat such herbs as may prove injurious to them.

A Medicine against infectious distempers, and to preserve Health in SHEEP.

Take the berries of juniper well dried, and beat them small, or for want of them, young tops of juniper dried gently in an oven, beat fine, and passed through a sieve; put two drachms of this powder to half a bushel of oats, and to that add, of common salt, about a quarter of a pint; mix them well together, and give it your sheep in wet weather, or in any contagious time, to keep your sheep in health. You may give this medicine three or four times a year; and it is remarkable, that when sheep are in health, they will hardly taste it, unless they are shut up in a penn, and kept from other meat. But if they are inclining

inclining to the rot, or any other inward distemper, they will readily eat it.

It is a remark worthy observation, that where the juniper grows frequently, sheep never are subject to the rot. This medicine may be given for a day or two at a time at most, giving dry hay besides.

To destroy Ticks or Tickells in Sheep, which spoil their skins, and keep them low in Flesh.

Take the root of the common wood maple, or acer minus; cut it in chips or grind it, and make a decoction of it in common water, the quantity about an ounce to a pint, which must be drawn clear from the root as soon as it is cold. This water being applied to the skin of the sheep, where the ticks happen to prevail most, is a certain destroyer of them. I suppose I need not tell a bred shepherd that the wool must be first gently opened with the fingers before the liquor is applied. Some use a linen cloth that has been well soaked in it; others apply it with a sponge, immediately after the sheep are shorn,

to prevent the ticks for the future, and even to destroy the eggs of the ticks, which may remain upon their bodies.

A skilful shepherd near Dorchester recommends the following remedy to destroy the ticks. Boil an ounce of tobacco-stalks and a drachm of salt in a quart of water, and apply it to the sheep, as soon as shorn, with a soft brush

But I cannot conclude this receipt without observing what another curious shepherd directs. That, to apply either of the above liquors in the best manner, the wool of the sheep should be opened all along the ridge of the back, and the liquor so poured into that opening as to run over each side of the body. This may be done with less trouble than the former, when sheep are deep in wool; and considering the cheapness of either of the liquors, I think the last the best way, as it is the most expeditious.

Of the Worm in the Foot, and the Cure.

The worm in the foot shews itself by a swelling between the two claws, which makes the sheep go lame. When you find

find a sheep lame of any foot, you must examine it between the hoofs, and if he is troubled with this distemper, you will find a hole big enough to admit a pin's-head, in which you may observe five or six black hairs about an inch long; then with a sharp pointed knife open the skin a quarter of an inch on each side the hole, and pressing of it gently with your thumb above the slit, take hold of the black hairs with the other hand, and there will come out a worm like a solid piece of flesh, about two or three inches long. The wound must afterwards be anointed with tar to heal it, or you may use the broom salve.

Of the Cough.

When sheep are troubled with the cough and shortness of breath, bleed them in the ear; and take some oil of almonds and white wine, which mix well together, and pour into their nostrils about a spoonful at a time. Sheep are subject to be scabbed about the lips when they have the cough, &c. The remedy for which is, to beat hyssop and bay salt, of each like quantities together,

ther, and rub their lips, their palate, and their mouth with it. But if there should be any ulcerous places, anoint them with vinegar and tar well mixed together.

A Remedy when SHEEP happen to swallow any venomous Worms, Horse-Leach, or poisonous Herb.

When sheep have ate any thing that occasions their body to swell, bleed them in the lips, and under the tail, and give them a large spoonful of olive oil, or sharp white wine vinegar; or two good spoonfuls of human urine, from a sound person.

Against the MURRAIN.

Take the dried flowers of wormwood, or of rue, mix them with common salt, and give it to such sheep as are infected, or are in danger of being so. About a drachm is enough for each sheep in a morning, in a spoonful or two of human urine.

Of the Red-Water, and the common Cure for it.

This distemper is accounted one of the most dangerous that sheep are subject to,

as it carries them off very soon, if not discovered immediately. Bleed the sheep in the foot, and under the tail; then apply to the fore places the leaves of rue and wormwood, or the tender shoots of either of them, bruised, and mixed well with bay salt; and give them fine hay in the mornings and evenings, or other dry meat, sprinkled a little with salt.

For the Wildfire.

This is as dangerous and infectious a distemper as any that can attend a flock; to remedy which, take some chervil, bruise and beat it up with stale beer, and anoint the afflicted part with it. Or, which is as good, take a quarter of a pint of water, and the quantity of a horse-bean of white copperas, wash the fore part with this water twice or thrice in an hour's time, and it will certainly cure. I have known a shepherd of good understanding use common ink with good success.

For sore Eyes.

Some shepherds use the juice ofcelandine, which they drop into the eye; others

others the juice of the leaves of ground ivy, which should be forcibly spirted out of the mouth into the sheep's eye; or a decoction made of either of the foregoing plants in common water will do as well. It would not be amiss to have these remedies ready at hand. When you make these decoctions, five or six grains of alum may be boiled in every pint of water. White copperas, about seven grains of it infused in half a pint of water, is also a sovereign remedy for the humours in the eyes.

Of the Tag or Belt.

Sheep are said to be tagged or belted when they have a flux, which lighting upon the tail, the heat of their dung, by its scalding, breeds the scab. The common cure for this distemper, is first to shear the tags of wool that are rayed, so as to lay the fore bare; then wash the raw part with human urine, or strong beer or pork brine; then strew the same place with fine mould, or dried earth, and after that, lay on tar mixed well with goose grease or hog's-lard; repeat a strewing of the fine mould,

and it is a certain cure, as far as outward application can act; to complete which, give them as a diet, oats, fine hay, with a little sprinkling of bay salt finely beat, and a small quantity of the powder of juniper berries.

N.B. This distemper being generally occasioned by cold, and poor pasturage, therefore change of pasture is likewise helpful.

Of the Measles or Pox.

This distemper shews itself at first in the skin in small pimples, either of a red or purpleish colour, and is very infectious; so that whenever a sheep is attacked with it, it ought instantly to be removed from the flock, and put into a fresh springing pasture. The outward application used by the shepherd, is to boil the leaves of rosemary in strong vinegar, about three ounces of leaves to a pint, and to wash the pustules or sore parts with that decoction.

Of the Blood.

A sheep attacked with this distemper will first stand still, then hold down his head, and soon after stagger and drop down

down dead; and all this in five or six minutes. A shepherd therefore should be very watchful; and as soon as he perceives a sheep stagger, first bleed him, by cutting off his ears about the middle, and immediately after bleed him under the eye, and he will soon recover. Some are of opinion this distemper proceeds from the sheep's eating pennygrass (in Latin nummularia) while others suppose it to be an overfulness of blood from rank diet.

Of the Wood-evil, and its Cure.

This distemper is seldom or never found among sheep that have their pasture in low grounds, but for the most part amongst those that feed upon poor uplands, and grounds over-run with fern. In the mountainous countries it is common enough; and some attribute it to the sheeps feeding upon the young tops of fern, or some venemous mushroom.

This disorder commonly happens about April or May, seizing the sheep in the neck, making them hold their heads awry, and occasioning them to

halt in their going. The remedy is, to bleed them in the vein under the eye, which if not done in time, and fresh pasture in low lands provided for them, you will lose your sheep, as this distemper will occasion their death in a day or two.

C H A P. XXXII.

Of SWINE, and their Improvement.

HE who understands the management of swine, will reap a greater advantage from them that can accrue to those who keep the larger sort of cattle, either in breeding swine for pork or for bacon. They are one of the great necessities about a farm, and are bred at less expence than any living creature under the direction of the husbandman; their food being coarse and ordinary, being contented with any thing, so they have but their bellies full, as whey, flit milk, wash, grains, offal, corn, carrots, parsnips, coleworts, cabbage-leaves, bean-tops, &c. and it were not amiss, if a parcel of land was
planted

planted with such like food, on purpose to feed them.

As for the keeping them, some are of opinion 'tis better to have a hog-yard with sties in it, and there to keep them penned up, than to let them have their liberty; for then they waste their flesh, and will not fatten so soon. Yet after harvest to let them have the benefit of eating up the corn left on the ground would be profitable.

Some are of opinion, that it is better to keep all boars and sows, and no barrows; for a boar will require as little keeping as a barrow, and is much better, having more meat in him, and if you make it into brawn it is much dearer; and for sows, before they are fit to kill, may bring more pigs than they are worth, and notwithstanding be as fit for bacon as barrows, provided they are not too old. But the reason against keeping too many is the great trouble, attended with the charge of bringing up the pigs fit for the market or for store.

There are three sorts of swine commonly bred in England; the first I shall mention

mention is the large Hertfordshire, or, as some would have it, Lincolnshire breed, which is the quickest grower, and ripens to the greatest size of any we know with us; but must have great store of food when young, or it will be stunted, and never come too good; some of these I have seen between twelve and thirteen hands high.

Another sort, which is famous here, is called by some, the Bantam breed, or the Guinea breed, or the African hog, or the black French hog. This is, in my esteem, the most profitable for breeding of pigs, sweetness of flesh, and for being easily raised and fattened. It is the most hardy of all others, and will make the best shift for its food of any hog that we know; these are seldom more than eight hands.

But the sort of swine most frequent in England, requiring the least care, and bringing the most profit, are the cross kind, bred between the two foregoing sorts. These are every where coveted, because they easily shift for themselves, are great breeders, more hardy than the largest sort, and sooner grow
fat

fat when they are put up. Their flesh is likewise much finer, and more delicate than that of the large sort, which generally is coarse and loose; some of these will come to be about ten hands high.

In large dairies, you may very well keep one hog to each cow; for the offals of the dairy, such as skimmed milk, or flit milk, whey, and the washing of the dairy, will afford them food sufficient to nourish them, and make them profitable.

For the choice of your swine, both boars and sows, that you design for breed; let them be long and large bodied, deep sided and bellied, thick necks and thighs, short legs and thick chined, well set with strong bristles. As to the colour it matters not much, but the white or sandy are esteemed the best, the pied being held the worst, as subject to the measles.

Those sows are accounted best for bearing strong pigs, which have not more than twelve tets or paps; or ten paps is a good reasonable number.

One

One boar may be allowed to ten fows, and not more, if you design the breed to be strong; and both should be at least a year old before they are suffered to couple. A sow goes about sixteen or seventeen weeks, most commonly farrowing in the seventeenth week; and if they are kept clean and well fed, will bring three fares of pigs in a year, and commonly nine, ten, or twelve at a time, which makes them of more advantage to a farmer than many other of his cattle, whether they are sold as sucking pigs in the market, which is the most profitable way, or reared for feeding or breeding. But as three broods would weaken the fows too much, and consequently the pigs themselves be weaker, it is better not to suffer them at every breaming time to take the boar, and the pigs will then have the benefit of being suckled by a dam in full strength.

Some farmers judge that the best breaming time, is from November till the end of March, or beginning of April; so that you will have pigs far-
rowed

rowed at the best seasons, either for killing as sucking pigs, or for stock pigs.

Though a sow may be with pig at the first breeming, as it is almost constant, the more prudent farmers suffer her to keep company with the boar for some time afterwards, to prevent the casting of her pigs before the time.

It is remarkable, that a sow in a few days after she has pigged, provided she is well fed, will seek the boar; and if she is suffered to be served by him, it will be no difficulty to conceive how she may bring forth three litters in a year.

Some young sows at their first farrowing are subject to eat their pigs, and should therefore be watched carefully when their time of pregnancy is out. To prevent which, feed the sow very well for two or three days before her expected time of farrowing. But if that care has not been taken, then as soon as any of the pigs are farrowed, wash their backs with a sponge dipped in an infusion of aloes and water warmed,
which

which will prevent her from destroying them.

It is necessary to feed a sow plentifully when she has pigs, that she may give them the better nourishment; and it will likewise be advantageous to the owner, to help the sow by feeding the pigs with warm milk now and then, with a little coarse sugar in it, as soon as they may conveniently be brought to take it, especially if the sow has brought a great number; and then also to sell off what you think convenient, as sucking pigs, to strengthen the rest.

The best time for killing pigs, and when they are accounted wholesome, is at three weeks old; and the others that remain for breed will begin to follow the sow, and to shift for themselves.

When it happens that you have several sows which farrow about the same time, put them into different sties, otherwise they will destroy the pigs of one another.

When a sow has brought a fare of pigs, barley made soft in water will nourish her much, is a cooling diet, and strengthens the body; or if barley
is

is broken or half ground, and sodden in water, it will still be of more advantage to her and her pigs.

As a sow that has pigs is the most mischievous creature that we know; remember particularly at that time to let her have water, although you allow her plenty of milk, or the best wash from the dairy, and it will keep her from doing harm.

When you have a mind to wean your pigs, let them be fed at intervals, during the sow's absence, with the best milk you can spare from the dairy; which, though you begin with it warm, you may at three weeks end give it them cold, if you design to rear them; and they may then, or at a month at farthest, either be fed alone, or keep company with the sow abroad.

There is one thing necessary to be observed by those who breed and feed swine, which is, that they do not suffer them to feed too rashly, or give them any extraordinary plenty before they put them up; but such a moderate diet as will just keep them in a good state of body, and prevent them from
Q
being

being over ravenous. Besides, if sows are fat at the time of their farrowing, their lives are in danger.

If you suffer your swine to range about in the day time, be careful that they eat not too much fresh grass, especially in the spring, for it will certainly give them the gargut; for which reason it is adviseable, so long as you turn them out, to give them a feeding every morning and evening.

In harvest time they must be carefully yoked and ringed, to keep them from breaking through hedges to get at the corn.

When the sow passes her time of breaming, or if she does not seem inclineable to take the boar, give her some parched oats in her swill, or morning or evening's food. Or, according to some good housewives, the small end of a rennet bag will excite her to receive the boar.

A sow may breed till she is six years old. Some farmers indeed would allow her seven years before she is put up to fatten; but I am of a contrary opinion, for she never receives her food
well,

well, or can make good flesh, unless she is strong in body, and has taken the boar some time before she is put up; for otherwise she would pine, and her meat would be of no nourishment to her.

When hogs are put up to fatten, it is necessary also that they be kept out of the cry or grunt of other hogs, for otherwise, upon the first confinement, notwithstanding the extraordinary plenty of diet which is given them, they will pine, and decline in their flesh. This should be particularly observed in putting up boars in franks for brawn.

When a boar has past his fifth year, it is adviseable to geld him, in order for putting up for brawn, for then he is no longer esteemed fit for generation; his flesh then is not too hard, and his skin is most naturally inclined to be brawny. However, if he is gelt, he will then make good bacon.

The pigs best to rear are those farrowed in or about Lent, and in summer; for in winter the cold pinches them much, and keeps them back. Then having chose out the best for

boars and sows to breed on, geld all the males, and spay all the females you design to rear, for both will make the best hogs for fattening, and yield more lard. The spayed gelts will be first fit for the butcher to kill for pork.

As there is good reason to judge, notwithstanding what some of the ancient writers would insinuate to the contrary, that swine are very cleanly creatures in their disposition, nothing being more certain than that they will never thrive or fatten, if they are penned up in so close a stie that they are obliged to lie down in their own dung, though you use your utmost endeavours; therefore I would advise whoever has a care of pigs, to keep the sow littered with clean straw, and her stie free from all manner of filth. The finest pigs that ever I have seen reared, were managed in this cleanly manner.

C H A P. XXXIII.

How to feed a Hog for a Porker, or to be used fresh in the Kitchen.

THE best time of killing a hog for pork or green bacon is at full half a year, or at most nine months old; the hog's flesh of this age will eat tender, sweet, look white, and be full of gravy, if it be used fresh, or if it is pickled. But it is necessary to take notice of the food which such hogs ought to have three weeks or a month before their killing.

Some feed them with raspings of bread soaked in water, but as this is a soft food, you may, in the first week of putting up the hogs add to every bushel about a peck of horse-beans, broken a little in a mill. And if you have a mind to make the flesh and fat yet more firm, you may sprinkle a small quantity at a time of oak bark, finely ground, into the raspings.

Another way of feeding swine for pork is with barley meal, to be tempered with water till it is of the consistence of mortar; about five bushels of

barley meal ordered in this manner, will fat a hog as well as eight strike bushels of pease, and make his fat as firm.

Another way, which I think much the best, is to give a hog about three pints a day of horse-beans with his common meat, for a week before you put him up; and then you must be sure that he never want either meat or water, and is well bedded with clean straw, or pease haulm, which must be shifted frequently.

At the first of his being penned up, he will eat about three quarters of a peck in a day, and by degrees, as he grows fatter, his appetite will decline. About three bushels of pease, or four at most, if he be of the larger breed, will fit him for killing, without making him too fat. In this condition, his flesh will take salt much better than by any other food, or at any other age.

Acorns, where they can be had, are yet preferable to horse-beans, these being rather too hot to be given in abundance, and may be used in such quantities as I have directed above in the week

week before the hog is shut up in the stie. In short, if you would make the fat of these creatures firm, the more acorns you give them the firmer it will be, as the nature of the acorn is astringent. So likewise the bark of the oak, which I have mentioned before, will help that way; and chesnuts are much of the same nature, and nourishing also like the acorns.

C H A P. XXXIV.

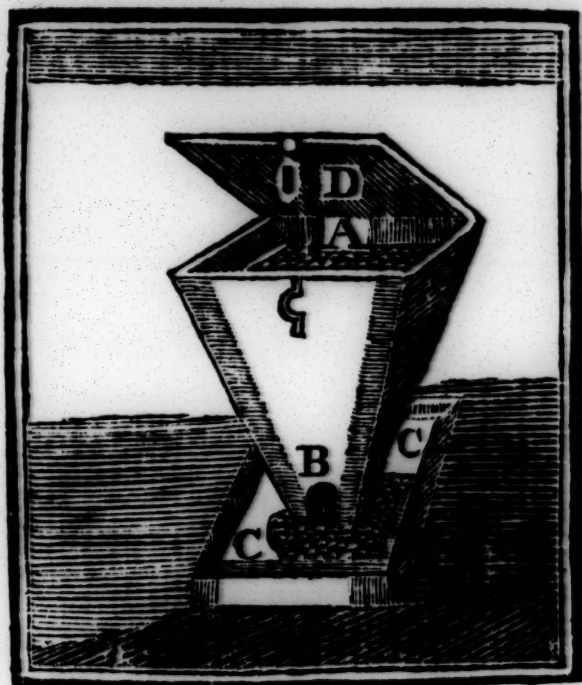
How to feed and fatten a Hog for Bacon, &c.

IN Hertfordshire, and the north part of Essex, where the large breed of hogs generally prevails, they account a hog of thirty shillings price is of a good size to put to fatten for bacon; and I have known some farmers allow twelve, fourteen, and sometimes sixteen bushels of grey pease for the fattening of a hog. And there have been hogs in those counties, when they have been full fat bacon, have been sold at five, six, and even seven pounds a piece.

The

The hogs which are put up for bacon, being generally older than those we feed for porkers, they will be brought with more difficulty to feed in the stie than the younger hogs; therefore the day before you put them up, you must keep them scant of victuals. Their stie, as I have before observed, must be as clean as it can be made, and well bedded. They will at first, however good their meat may be, whether pease or any other sort, be apt to toss it out of their feeding trough, either out of wantonness or ill-nature; to prevent which, the following contrivance will be of good use, as it will let down their meat no faster than they desire to it, as I shall explain by the figure, &c.

A. Represents



A. Represents the mouth or opening of a conic-box or hopper with the broad end upwards, into which you pour their meat; at the lower end B. is an opening through which the meat will fall by degrees into a trough, or receiver of wood CC. where the hog may eat it as it falls, without being capable of spoiling or wasting any of it.

The box or hopper may be made to hold a bushel, and must have a cover D. closely barred or locked, to prevent the hogs breaking into it. The trough may

may be about two foot and a half square, and the box should be as broad at the top, ending narrow at the bottom, as the figure directs.

By feeding hogs in this manner, there will be one advantage more than by the common way, which is, that the fat of your hog, although it will not encrease, it may be, so fast as in the ordinary way of feeding, yet it will be more firm, and less subject to turn rusty; for it is observable that all swine that have liberty to feed when they will in their gluttonous manner, will indeed grow quickly fat, but their fat will be spungy, for want of a sufficient time for the digestion of their meat; but especially I would recommend this way in feeding hogs for brawn.

There is no creature so timorous in sickness as the swine, insomuch that he forsakes his meat until he finds a recovery.

All swine in health curl their tails, for which reason, the best swineherds will by no means suffer them to be blooded in that part, but in the ears,
and

and about the neck, when bleeding is necessary.

If your hogs do not thrive, which is seen by the staring of their hair, and looking rugged.—Take half a peck or more of ashes, boil them into lee, then cause such hogs to be laid upon a form, and wash them with the lee, and curry them with an old curry-comb, till you find all the scurf washed from the skin; then wash them with clean water, and strew dry ashes over them, and this will kill the lice, and cause the hogs to thrive extraordinarily. The chief thing that hinders hogs from thriving, is to let them lie in the wet.

C H A P. XXXV.

Of the Diseases in SWINE, and the Cure of them.

Of the Fever.

SWINE are very subject to fevers, which they shew by hanging their heads, and turning them on one side, running on a sudden, and stopping short, which is commonly, if not always attended with a giddiness, which occasions

sions them to drop, and die, if not timely prevented. When you observe this distemper upon them, you must strictly regard which side their heads turn to, and bleed them in the ear or in the neck, on the contrary side. Some advise to bleed them likewise under the tail, about two inches below the rump.

It is very certain that this giddineis, or, as some call it, staggers in a hog, proceeds from too great a quantity of blood, as we are sure, that by bleeding them in time, they certainly recover.

In the bleeding of hogs near the tail, you may observe a large vein to rise above the rest. The old farmers used to beat this vein with a little stick, in order to make it rise or swell, and then open it lengthways with a fleam, or fine pen-knife; and after taking away a sufficient quantity of blood, such as ten ounces from a hog of about fourteen stone, or fifteen or sixteen from a hog of five and twenty and upwards, bind up the orifice either with bafs taken from a fresh mat, or with a slip taken from the inner bark of the lime-tree,
or

or the inner bark of a willow, or the elm. After bleeding, keep them in the house for a day or two, giving them barley meal, mixt with warm water, and allowing them to drink nothing but what is warm, water chiefly, without any mixture. In the paste made with barley meal, some of the most curious swincherds will give about half an ounce a day of bark of oak ground fine.

Of the Quinsy.

This is a distemper which swine are very subject to, and will prevent their feeding, and frequently happens when they are half fatted; so that I have known, after five or six weeks putting up, when they had eat near ten bushels of pease, three or four days of this distemper has reduced them to as great poverty in flesh as they were before they were put up to feed. This distemper is a swelling in the throat, and is remedied by bleeding a little above the shoulder, or behind the shoulder. But the method which I take to be the most certain, is to bleed them under the tongue, though some pretend that

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fettering is the most certain method of cure. However, any one of these methods will do.

Of the Kernels.

This distemper is likewise a swelling in the throat, the remedy for which is bleeding them under the tongue, and rubbing their mouths, after bleeding, with salt and wheat flour, finely beat, and well mixed together. If a sow happens to be with pig, and has this distemper upon her, give her the roots of the common field narcissus, or yellow daffodil.

Loathing of Meats in SWINE, or their discharging it voluntarily by Vomit.

When swine vomit their meat, their stomachs may be corrected by giving them the raspings of ivory or hartshorn, dried in a pan with salt, which must be mixed with their meat, which should be chiefly ground beans, or ground acorns; or for want of these, barley indifferently broken in the mill, and scalded with the above ingredients. Madder is likewise good to be given them on this occasion, mixed with their meat.

meat. This distemper, however, is not mortal, but has the ill effect of reducing swine in their flesh. It certainly prevents the distemper called the blood, or the gargut, which generally proceeds from their eating too much fresh grass when they are first turned abroad in the spring.

Of the Gargut or Blood.

This distemper, among country people, is always esteemed mortal. Some call it madness in swine. It shews itself almost like the fever, by staggering, and loathing their meat.

In the fever, however, they will eat freely till the very time they drop; but in this their stomach will fall off a day or two before the staggering or giddiness appears. Bleed the hogs as soon as you perceive them attacked with this distemper under the ears, and under the tail, according to the opinion of some. To make them bleed freely, beat them with a small wand where the incisions were made. After bleeding, keep the hog in the house, give him barley and meal in warm whey, in

which mixture give him madder, or red oaker powdered, or bole.

Of the Spleen.

As swine are unfatiable creatures, they are frequently troubled with abundance of the spleen.—The remedy for which is, to give them some twigs of tamarisk, boiled or infused in water. Or if some of the small tender twigs of tamarisk, fresh gathered, were to be chopped small, and given them in their meat, it would greatly assist them, for the juice, and every part of this wood is of extraordinary benefit to swine in most cases, but especially in this distemper. If you cannot get tamarisk, you may use the tops of heath, boiled in water, or what, in my opinion, may be more efficacious, the water in which the ashes or coal of heath have been quenched; and more especially if you use this water to temper your barley meal with, which you give to your hogs in time of sickness.

Of the Cholera.

This distemper shews itself by the hog's losing flesh, forsaking its meat,
and

and being more inclined to sleep than ordinary, even refusing the fresh food of the field, and falling into a deep sleep as soon as he enters it. It is common, in this distemper, for a hog to sleep more than three parts in four of its time; and consequently he cannot eat sufficiently for his nourishment. This is what one may call a lethargy; for he is no sooner asleep, but he seems dead, not being sensible, or moving, though you beat him with the greatest violence, till of his own accord he recovers.

The most certain and approved remedy, for it is, the root of the cucumis silvestris, or wild cucumber, as some call it, stamped and strained with water, given them to drink. This will immediately cause them to vomit, and soon after to become lively, and leave their drowsiness. When the stomach is thus discharged, give them horse-beans softened in pork brine, if possible; or for want of that, in beef brine, or in fresh human urine from some healthful person. Or else acorns that have been infused a day or two in

common water and salt, about a fortieth part of salt to the water.

It would be necessary to keep them in the house during the time of the operation, and not to suffer them to go out till the middle of the next day, first giving them a good feed of barley meal, mixed with water, wherein a little oak bark has been infused for three or four hours.

The dried roots of monks rhubarb powdered, and given about a quarter of an ounce with a peck of barley meal, is a more gentle remedy than the former, will bring the hog to feed with a good appetite, and is by the experience I had as certain a cure.

Of the Pestilence or Plague.

This distemper is judged to be infectious, and therefore all swine that are taken with it must immediately be separated from the herd, and put into some house where none but the infected may come. In this, as well as in all other cases where swine are distempered, let them have clean straw; for, as I have observed before, they are in
their

their nature very cleanly creatures. Give them, when they are thus attacked, about a pint of white wine, or raisin, wherein some of the roots of the polypody of the oak have been boiled, and wherein about ten or twelve bruised berries of ivy have been infused. This medicine will purge them, and by correcting their stomach will discharge the distemper.

If after the first another hog should be seized with the same illness, let the house or stie be cleaned well from the straw and dung of the first distempered hog. At the first of his entrance, give him some bunches of wormwood, fresh gathered, for him to feed on at his pleasure, observing every time that you have occasion to bring in new distempered swine, to give them clean litter and clean houses.

The polypody of the oak in wine, as above directed, is likewise an approved remedy for the choler in hogs.

Of the Measles.

When swine are troubled with this distemper, they will have a much hoarser voice

voice than usual; their tongues will be pale, and their skin thick set with little blisters, about the bigness of peas. As this distemper is natural to swine, the ancients advise, to give them their meat out of leaden troughs, by way of prevention. It is also a common practice, where this distemper prevails, (for it is in some sort pestilential) to give the hogs an infusion of briony roots and cummin-water every morning in their first feed, by way of precaution. But the most sure way is, to prepare the following medicine, viz.

Take of sulphur half a pound, alum three ounces, bay berries three quarters of a pint, foot two ounces. Beat these all together, tie them in a linen cloth, and lay them in the water which you give them to drink, stirring them first in the water.

Of the Distemper in the Lungs of SWINE.

Swine, as they are of a hot nature, are subject to a distemper which is called the thirst, or lungs, according to some farmers. This is a distemper proceeding purely from want of water, and
what

what they are never subject to but in the summer time, or where water is wanting. It is frequently to the farmer's expence, very greatly, when swine are put up to be fatted, that there is not due care to give them water enough; they then surely pine, and lose the benefit of their meat. The remedy for this is, to give them water fresh and frequently, otherwise it will bring them to have an over heat of their liver, that will occasion this distemper: to cure which, pierce both the hog's ears, and put into each orifice, a leaf and stalk, a little bruised, of the black hellebore.

Of the Ga'l.

This distempers shews itself by a swelling which appears under the jaws; and never happens but for want of appetite, and where, as some authors say, the stomach is too cold to digest. It generally, as far as my experience teaches me, happens to those swine which are confined in nasty pens, and are neglected and starved in their feed. To cure which, give them the juice of colewort,
or

or cabbage leaves, with saffron mixed with honey and water, about a pint.

Of the Pox.

This distemper is remarkable in such swine as have wanted necessary subsistence, and more particularly, in such as have wanted water. Some have thought it to proceed from a venereal cause, whereby the blood has been corrupted. It appears in many sores upon the body of the creature; and whatever boar or sow happens to be infected with it, will never thrive, though you give them the best of meat. The cure is, to give them inwardly about two large spoonfuls of treacle in water that has first been made indifferently sweet with honey, about a pint at a time, anointing the sores with flour of brimstone, well mixed in hogs-lard; to which one might add, a small quantity of tobacco dust. While you give this remedy, the infected swine should be kept in a house, and quite free from the rest of the herd, till they are cured.

Mr.

Mr. M— T— of Surry, his Remedy for the Swelling under the Throat.

This distemper appears somewhat like the swelling of the kernels, or what the ordinary farmers call the kernels in swine. The most immediate remedy is, to open the swoln parts, when they are ripe for that purpose, with a fine penknife, or lancet, taking care that it is not in the least rusty; and there will issue from thence a great quantity of foetid matter, of a yellow or greenish colour. Wash then the part with fresh human urine, and dress the wound with hogs-lard.

A Cure for the Bite of a Viper, or Mad Dog, &c.

The signs of madness in hogs, proceeding from the bites of vipers, slow-worms, or mad dogs, are nearly the same; viz. A hog on this occasion will paw with his feet, and foam at his mouth, and champ or gnash with his jaws, start suddenly, and jump upon all four at intervals. Some of the country people have mistaken this distemper for the fever, or that which is called
by

by some the blood, which I have already mentioned; others have mistaken it for the staggers; but in neither of these do the swine paw with their feet, the venomous bites alone giving them that direction. The most immediate remedy or cure for such bitings, if you can judge of their distaste presently after they are bit, is, to wash the wound with warm human urine, or warm vinegar; or for want of either, with water and salt, warmed; the quantity of salt one fortieth part of the water; and then searing or burning the wound with a red hot iron.

It is necessary, at the same time, to fether the hog in the ear with the common hellebore.

It is convenient, when swine have been thus bitten, to give them the following medicine:

Take of rue, the smaller centaury, box, St. John's wort, of each two handfuls; and vervain, a handful; these herbs should be boiled in four gallons of small beer, being tied up in bunches. When you think this decoction is strong enough, pass the liquor through a sieve,
or

or strain it through a coarse cloth; then add to it about a gallon of water, or as much as will make good the deficiency of the liquor boiled away; add to this about two pounds of flour of sulphur, and about a pound of madder finely beaten, and as much coriander seed not beat; of anniseed about three quarters of a pound, and fine oyster-shell powder well prepared; or in lieu of that, the powder of crab or lobster's claws, about six ounces. This medicine will be enough for twenty-five hogs.

Of the Tremor or Shaking in SWINE. Its Cure, from. C. G. Esq; of Hertfordshire.

Take hyssop and mallows, in stalks and leaves, about a handful of each, boil them in three pints of milk till the virtue of the herbs has sufficiently got into it; then pass the liquor through a sieve, or strain it, to free it from the herbs, adding then of madder two spoonfuls, and about an ounce of liquorice sliced, with as much anniseed. Give it two mornings together.

Mr. Tyson, of Warwickshire, his Remedy for the Staggers.

This distemper is to be cured two ways, viz. either by a draught prepared of flour of sulphur, and madder, ground or powdered, about an ounce of each boiled in new milk, and given at twice to the hog fasting in the morning, two days following, if you take the distemper in the beginning; or else, when it has already seized his head with violence, use the following preparation: take of the common house-leek and rue, equal quantities; to which add bay salt enough to make their juices very pungent, when they are bruised together, which should be done in a stone or marble mortar, with a wooden pestle; when these are well stamped and mixed together, add a large spoonful of the strongest vinegar you can get, and put the mixture into the ears of the hog, stopping them both close with tow, wool, or cotton; so that it may remain in a day and a night. This, if the hog is not too far gone, will recover him; but if he is not yet

yet quite well, the same must be repeated a second time; and as soon as the mixture is taken out of his ears, stop them with wool, or, &c. greased with a little oil of almonds; this will prevent his taking cold.

Of the Murrain and Measles. A Remedy from a curious Gentleman of Northamptonshire, highly commended.

Take of the flour of sulphur, half an ounce, and as much madder powdered or ground as it comes over; liquorice sliced, about a quarter of an ounce, and anniseed, the same quantity; to this put a spoonful of wheat flour, and mix it in new milk, to give the hog in a morning fasting; repeat this medicine twice or thrice.

For a Hog that has eat any unwholesome Herbs, such as Hemlock or Henbane.

Give him to drink the juice of cucumbers made warm, which will cause him to vomit, and so cleanse his stomach that he will soon recover.

C H A P. XXXVI.

Of P O U L T R Y.

How to order, breed, and feed Poultry, Turkies, Pigeons, Tame Rabbits, Geese, Ducks, Bujtards, Pheasants, and Partridges.

AS for the life of poultry, some authors make it to be about ten years ; but that a cock becomes unfit for the hens after he is four years old. And it is found by experience, that a cock should have no more than six or seven hens, to have strong and healthful chickens.

In the Complete Body of Husbandry, the proportion of the two sexes is said to be about one to ten ; and that a single cock will even serve twelve or fourteen hens.

Whichsoever kind you fix on, observe these marks of goodness in the particular fowls you buy. Let the cock be large for his kind, full bodied, well shaped and lively. In the choice of the hen the same general marks are to be observed as in the cock, only her whole aspect

aspect should be mild, as the cock's is sturdy.

If you have a large stock of poultry it is absolutely necessary not only to secure the hen house well from vermin, but also to keep it dry and clean, and to allow them as much air as may be; for if it is not often cleaned, the scent of the dung will give the fowls the roup.

Care must likewise be taken, that their perches may be conveniently and easily placed, and that they be not over any of the hens nests, which ought always to be clean and dry, and bedded with straw, for hay is apt to make setting hens faint and weak.

If the range for poultry and turkies is large, they will get best part of their living themselves, such as worms, the seeds of herbs, and the like. But it is very convenient to observe set times to feed them; and as hemp and nettle seed is good to lay eggs, a little should be mixed with their oats or barley.

Feed them early in a morning, and again just before they go to roost, which will bring them to good order, and they will become tame.

All those hens and turkies that have not laid in the morning should be kept in till they have; otherwise, if you let them out, they will lay abroad, by which means you will lose their eggs; but for geese, when once they have chosen their nest, they will not lay from it.

Twelve hens and two cocks, and six turkey hens and one cock, will eat about half a bushel of barley in a week for half a year, and a bushel a week for the other half year.

When you design to set a hen, lay up her eggs, as she lays them, in dry bran; and though seventeen be thought to be the best number to set under a hen, yet put no more in her nest than she can well cover. Let the upper side of every egg be marked blue; and when the hen goes from her nest, they must be carefully examined, and such as she has not turned, should be turned for her.

The best season for hens sitting is spring and summer, the earlier the better. Many hens will cluck in March for sitting; in this case, chuse the eggs
from

from good breeders, as near of a size as possible, and particularly from some that are little more than a year old; but chuse the old hens to sit upon the eggs, for they will sit close, and will bring forth the best brood of chickens, and be more careful in bringing them up than the young ones. It would therefore be very ill husbandry to stop the profitable laying of a young hen, by setting her upon her first eggs, when there are such as are fit for nothing else, and will do this better. You must also have regard to the feeding, for any extreme is equally wrong, whether in excess or in defect; the feeding them moderately, while laying, or while sitting, is the right method.

When a hen is set, she must never be disturbed against her will; and some care must be taken to set her food and water. If it happens that a hen dies, or by any other accident that a brood become motherless, the best method is, to mix them among the chickens of a hen that are about the same age, and she will take care of all together.

In

In large broods, especially, it often happens that some chickens are hatched a considerable time before the rest, often one and sometimes two days. In this case, if the hen is careful, nothing better can be done than to leave them with her; but if she is restless, and seems troubled with them, let a little meal be put into the bottom of a sieve, and let them be set in the reach of the warmth of the fire, if the air is cold, and there nursed till the hen has hatched the rest, and can take them under her care. During this time, nothing is needful but to keep them warm; for the chicken in the two first days requires no food.

For the first breeding of the chickens, the best thing in the world is a mixture of white bread crumbs and small oatmeal: let a quantity of these be mixed together, then put a part of it to steep in milk, and keep the rest dry, and give the chickens a little of each sort at times, as they follow the hen. After they have thus got a little strength, they are to be fed with bread steeped in milk, and the like, and the hen will by this time

time greatly assist in providing for them. In about ten or twelve days the chickens may be allowed to go abroad with the hen in cool weather; but in the hotter seasons, the less keeping them within will be necessary, often scarce at all.

It is a very material thing to let the chickens, while they are young, have good water; for they fall into half the diseases to which they are subject from drinking such as is foul.

When they are able to provide for themselves, the hen forsakes them; it is then the most usual time for fattening them, to which end they should be put into coops in a darkish place, and there fed for fourteen or fifteen days. The best food is ordinary wheat flour made into paste with milk. Some feed them with barley meal, and put a small quantity of brickdust in their water, which they should never be without, as it helps digestion, gives them an appetite to their meat, and fattens them in a shorter time.

You may also in the month of March set duck eggs under the hens; and it is very probable that goose eggs may be forwarded

forwarded in the same manner; but you must be sure to set them under a hen of a large breed.

How to raise, with little Trouble, a delicate Kind of
FOWLS.

In the beginning of April, put a cock pheasant to six or seven dunghill hens, keep them in a place by themselves, and you have a cross strain of fowls, which will be of a delicate flesh.

Poultry to fatten.

Poultry are fatted with buck-wheat, or with barley meal. Capons should be gelt as soon as the hen has left them, if their stones are come down; and you must cram them with barley meal well sifted, mixed with new milk, and made into a stiff dough, putting pellets of this down their throats, morning, noon, and night, leaving their crops full every time. Or you may make a stiff dough of wheat flour, and put in the pellets slips of fat bacon, and cram them therewith, and it will soon fatten them.

Diseases

Diseases in Poultry.

The Pip is a white skin or scale growing over the tip of the tongue, which hinders them from feeding; and proceeds from drinking foul water, and eating filthy meat. Pull off the said skin or scale with your nail, and rub the tongue with salt.

Poultry are often troubled with swellings in their rumps, called the roup, which in time will corrupt the whole body.—The cure is, to pull away the feathers, open the swelling, and thrust out the core; then wash the place with brine, or salt and water.

The flux comes from their eating too much moist meat.—To cure which, give them pease, or bran scalded.

Stopping in the belly, is the contrary to the flux, so that they can't dung.—To remedy this, anoint the vents, and give them small bits of bread, or corn steeped in urine.

Lice.—They commonly proceed from corrupt food, or the want of sand or ashes to rub themselves in. To clear them of this and all other vermin, steep
some

some beaten pepper in warm water, and wash your poultry with it.

If stung by any venemous worm, &c.—Anoint the part with rue and butter mixed together.

Sore Eyes.—Take some leaves of ground-ivy and chew them well in your mouth; suck out the juice, and spit it into the sore eye, and it will certainly heal it.

The Gargil is a great stopping of the head in geese.—For the cure of which, take three or four cloves of garlick, beat them in a mortar with sweet butter, of which make little long balls, and give a goose two or three of them fasting, keeping her shut up for two hours after.

C H A P. XXXVII.

A curious Method of hatching Eggs.

MR. Bradley tells us, that he has used a method of hatching eggs, somewhat after the Egyptian manner, in a hot bed of horse-dung, or tanners bark, as follows:

Take

Take an earthen vessel like a garden pot, but not quite so deep, fill it half way with wool or cotton, and lay as many eggs on the bed as will make a single layer, so as not to come within an inch of the sides of the vessel; then fill up the pot with wool, covering the eggs about four inches thick, and set it up to the rim, in such a bed as is used for cucumbers with a frame upon which you must lay the lights as close as possible, and the eggs will be hatched in due time. But if the weather proves very cold, the young ones must be carefully nursed by the fire; and if they be water fowls, they must have pans of water agreeably warm, which they will of their own accord go into. If you can make fowls lay, you may always hatch their eggs.

The eggs of many sorts of curious fowls may be transported from one place, to another in boxes of bran, close shut down, in order either to set under hens, or to be hatched the artificial way.

C H A P. XXXVIII.

Of T U R K I E S.

To succeed in the Breeding of Tur-kies, observe the following Directions.

AS soon as they are hatched, give every one of them a whole pepper corn with a little milk; then take the young ones with the hen, and put them in a barn or out-house, and keep them there till they are about six weeks old. It is not only necessary to keep them warm for that time, but likewise to keep them from eating small snails and slugs which they would find abroad, and would scour them to death. After six weeks bring them out with the hen, and place them where the sun is moderately warm, so inclosed in an open case of wicker as to prevent their ranging; then feed them as you did from the beginning, with curds, a little rue cut small, and some ants eggs, or, which is better, rotten eggs boiled very hard, with clivers or wormwood chopt small and mixed with them, and put them again into the house, as soon as they have

have enjoyed the warm air for two hours; allowing them from time to time, as they grow more hardy, so much more time abroad, till at length they become capable of shifting for themselves. But I must not omit to tell you, that soon after they are hatched, they should have a fresh turf of short grass every day, but without snails or slugs upon it, for the reasons before-mentioned.

If you caponize turkies, they'll be larger, and of a much finer flesh.

Turkies are fatted by putting them in coops, and for the first fortnight feeding them with sodden barley or oats, and afterwards cram them as directed for capons.

C H A P. XXXIX.

Of P I G E O N S.

ALBERTUS tells us a pigeon will live twenty years, and no longer. The flesh of pigeons is hard of digestion, and therefore is not judged a proper supper meat.

Pigeons have several natures and names. The tame or house pigeons are called barbels, jacks, crappers, carriers, runts, horsemen, tumblers, and great reds; the barbel has a red eye, a short tail, and a bill like a bullfinch; the small jack pigeon is a good breeder, and hardy, and has a turned crown; the crappers are valuable for their swell; the carriers for their swift return home, if carried to a distance; the horseman is something of the carrier's nature; the tumblers for their pleasant agility in the air; the runts for their good breeding, and bringing up their young ones; the great red for their largeness; the turntails for their turning them up almost to their backs; and the black head is a white pigeon with a black head. Several of these are often preferred for their beauty, but the most common are the runts. Generally, in about half a year's time, the young ones may be paired, by putting a cock and a hen into a small coop hutch, where sometimes in an hour or two, and sometimes not under a day, two, or three, they will pair, which is known by their billing
and

and cooing, the cock calling the hen, and the hen spreading herself before him. They breed almost all the year except moulting time. It is common to cross match them, and they will breed the better; and should be fed all the year, except seed time and harvest: the former holds about a month, and the latter three, even to Allhollantide. Some always give them meat throughout the year, because, they say, before they will be forced out to get their living abroad, they will starve some of their young ones: others, as farmers, will give them no meat all the year.

These calculations are for the country, where meat is plentiful at those two seasons; and at others, at the barn doors. Forty pair is reckoned to make about twenty single bushels of dung a year, and is often sold for ten-pence the single bushel heaped. It is said this number, well looked after, will maintain a single man. A garret, or room, about twelve by twenty feet, will contain that number; too much room hinders their increase, as well as too little. They commonly hatch within three weeks, lay

generally two eggs, and about three weeks after hatching they are fit for market. This number will eat a bushel of pease or tares in a week, besides half a peck of hempseed, which fattens the young ones very much, and is made use of by the higlers, to cram them on the road in their way to London, where, at the seed shops, it is often sold for half a crown the bushel. They should have constantly several little bins by them, to let out their meat gradually into a lower trough, as they consume it, which is a means to keep them from straying; this, with fresh water and gravel, will keep them at home, without the salt-cat and other contrivances. Indeed some cummin seed is esteemed very good for its scent, to keep constantly in the pigeon-house. And nothing promotes the breeding of pigeons more, than to mix cummin seed with their food, which should be done about the beginning of January, and you will then have young ones early in, or even before the spring, when they sell well in the markets. Spurry seed, or buck-wheat mixed with their food, will likewise

wise forward their breeding. An old pair of pigeons may be brought from another place, and will seldom return, if they are kept in till they breed.

C H A P. XL.

Of Tame R A B B I T S.

TAME rabbits are great improvers of a farm by their dung, which is often sold for six-pence a bushel trod in, and is chiefly used to harrow in with barley and grass seeds. They bring considerably more profit in hutches than in pits. Their season is from Christmas to Whitsuntide. When they are full grown, they are said to be whole skinned (i. e. their fur is full grown) and such skins will sell, if they are of the common grey wild kind, for five shillings a dozen at the first hand; or if they are of the white or black kind, about six or seven shillings a dozen; but of the silver haired rabbit, about a guinea; being then fit for dressing, to be exported with their fur on. The
fur

fur of the wild grey sort is good for the hat-makers.

The main art of keeping these creatures, is to preserve them from tunnning or being pot-bellied; and therefore, when fed with raw grains, hay must be always given with them in the little apartment of the hutch, to dry up the moisture of the grains; and when fed with bran, or other dry meat, greens must be given to answer their drowth.

Commonly we keep the young ones with the doe two months, and at five weeks end let her take buck, that the former brood may go off about a week before she kits.

Pollard mixed with grains, or made into paste with water, and given them three times a day, is very excellent food for them. Ground malt helps to recover the young ones when tunned. Barley also just broke is very good.

If a convenient place can be had, to let young ones run in cover, or out at pleasure, they will thrive with less meat:

They mightily love to browse on pease straw or green furze.

If

If bran is given alone, it should be long bran; but to mix with grains, it should be short bran or pollard. I never tried it yet, but am of opinion, that French wheat must be fattening food for the young ones; and when they are so, they sell best to the higler at six or eight weeks old.

A doe goes thirty one days, and generally one time with another brings six, though some will bring ten at a kindle; but five are enough for any one doe to bring up and fatten; more weakens the dam, and they never grow large.

The best time to save young ones for breeders is in March; and then with good meat, clean usage, and close attendance, they will take buck about Alhollantide, and so enter the season with the sale of their first litter. A doe is reckoned to pay ten shillings a year clear, and that her dung will pay for grains.

The sweetness and good relish of their flesh, undoubtedly, is a very desirable thing, and then they are certainly more wholesome. And this, in my opinion,

is to be obtained, first, by such food as will occasion it; as good oats, barley, pollard, and fresh hearty grains, greens, and hay: secondly, by keeping their hutches thorough clean, and carrying away their dung to some distance: and thirdly, by keeping them in a wholesome sweet air; for all living creatures must subsist by air, and be better or worse affected by it, as it is good or bad.

The common way of killing them, by striking them behind their ears only, is not so well, by reason of the great quantity of blood that settles in the neck, which by the new practice is mostly prevented. As soon as they are struck with the hand under the ears, then immediately jobb a penknife into their throat, and giving it a launce toward the jaws; this will let out the blood till they become white.

Another way is, to kill them as they do a turkey, by flitting with a penknife the palate of the mouth; this is reckoned the most cleanly way of all.

Ten couples of does, and two buck rabbits will cost, for one year's keeping, with their offspring, as follows :

	<i>£. s. d.</i>
To 48 bushels of bran, at 9d. per bushel	1 16 0
To 12 bushels of oats, at 16s. per quarter	1 4 0
To 6 trusses of hay, at 1s. per truss	0 6 0
	<hr/>
	3 6 0
	<hr/>

Twenty breeding does will, if they are well fed, bring at least six stops of young ones each every year ; but some have above nine or ten broods every year. The custom is, when a rabbit kindles, to leave only five young rabbits to each doe, and destroy the rest ; reasonably judging, that more than that number will weaken a doe so much, that she will not breed so often as she should do for their interest. Now if your rabbits breed only six months in the year, which is the least that they will do, and that you was to save only five of a kindle to each doe, you would have in a year six-hundred rabbits, which, one with another, would sell for six-pence a piece at a month old, without

out consuming hardly any hay, bran or		
oats, which amounts to	£. 15	0
Expence of feeding	3	6
	<hr/>	

Neat profit	£. 11	14
	<hr/>	

Observe, that the castrating of the male rabbits will render their flesh as agreeable as the females, and more tender; and they will become as large as hares.

If you have any fish ponds, the entrails of the rabbits will be of great use to your fish, if you strew them in the water while they are fresh, otherwise they will not eat them.

C H A P. XLI.

Of G E E S E.

1. **T**HE age of the goose, as some farmers assure us, is not less than a hundred years. The great Willoughby, in his History of Birds, tells us of some of these fowls that lived to the age of threescore.

2. The

2. The keeping of the goose requires very little labour or charge, either in the breeding of the goslings, or the common way of fattening the geese for the markets; which is done by turning them upon the stubbles, as soon as the corn is carried into the barn, and giving them a little barley in water for a few days when they come home.

3. There is another way, commonly practised for fattening of geese, which is to shut them up in a dark close room, and feed them with barley just broken in the mill, or buck wheat; to which might be added a few dried figs broken and bruised, and a pan of water with gravel or sharp sand in it; by this means they will grow fat in about a fortnight.

4. But to fat them in an extraordinary manner, they should be kept in a place where there is little light, and fed with ground malt in water, or ground malt and bran, or ground malt and wheat flour mixed with water to be as thick as pap; allowing them a pan of water besides, with some gravel in it, for

U

water

water helps to fatten them as much as their meat.

5. If you would have their livers very large, which is an excellency in this fowl, stamp dried figs, and make a paste of them with water, and cram them with it for about sixteen days, and it will fatten them extremely, and make their livers of a vast bigness, even so large as to weigh two or three pounds a piece, as some affirm. However, I have seen very large and fat livers of geese by the practice of this method, and the geese themselves of an extraordinary fatness.

6. During the time geese are fattening, you may now and then give them lettuce fresh from the garden, which will greatly help them, as also goose grass or clivers.

Observe that the geese put up to fatten should be kept out of the hearing of other geese, or else they will not thrive.

A goose sits thirty days upon her eggs if the weather is cool; but when warm, she hatches them in seven or eight and twenty.

When

When they are hatched keep them a week within doors, unless the weather be warm; for being put abroad too soon, they are apt to get the cramp, and often die of it.

Their food at first should be lettuce leaves or clivers and barley half ground, or raspings, or crusts of bread steeped and boiled in milk, or such like tender diet.

Use them by degrees to the air in the warm time of the day; and before the cold evenings come on, house them, till by degrees they gather strength. And by all means, before you venture them to go abroad with the dam, take care to root up all the henbane that grows about the place, for the gossins will eat it, and be poisoned as well as any other fowl.

Some, to have them forwarder, set geese eggs under a dunghill fowl, but a hen will not cover above five, whereas a goose will cover fifteen.

If you should happen to have eggs from several geese, it is proper to mark them, for every fowl knows her own: this precaution will save much trouble.

Geese and ducks may be forced to lay and sit early, by putting them in a covered place, feeding them well, and allowing them every day, early in the morning, some water a little warm in a large tub. And as the young ones sell well at the London markets, when they come early, I think this article not altogether unworthy of notice.

C H A P. XLII.

O f D U C K S.

TAME ducks begin to lay naturally in February, and must absolutely have a river or pond to go to, it being impossible for them to live and thrive without water. They likewise delight in meadows and pastures, for the sake of the herbs they find there, such as clover, fenugreek, wild lettuce, succory, &c. besides snails, slugs, and worms. Those herbs are not less beneficial to the young ducks, who feed on them as soon as they can run abroad.

When

When you feed them with oats, barley, or other corn, it best agrees with them given in water, as they naturally love moisture. It is however reported that they love acorns, and that they fatten extremely by feeding on them.

In winter, when the waters are frozen, and the snails, slugs, and worms, as well as the green herbs are wanting, they should be fed at home; which, though extraordinary to the nature of the duck, will cause them to lay eggs much sooner in the spring than the wild ones, who have felt the scarcity of winter provisions.

They commonly chuse secret places near the waters, or private shady places to make their nests in; but when you find them near laying, (which is easily discovered by the good housewives) feed them at home three or four times a day with corn, a little at a time, at the place where you would have them lay, making their nests for them, and then keeping them confined in the house till about ten o'clock in the morning, after which time I never found them lay. By what I have hitherto observed, they

generally lay their eggs in the night ; and if once you bring them to lay in a nest, they will not forsake it.

When you find a duck inclining to sit, put as many eggs under her as she can conveniently cover, rather her own than those of another duck ; however, let there be some of her own, if possible, and for the sake of those she will cover and bring up the rest.

Soon after hatching the dam leads the young ones to the waters, where they feed without trouble ; use them however to come home every night, to preserve them from accidents, and make them tame.

Ducks or Ducklings are fatted by being kept up, and having good store of any sort of grain given them.

C H A P. XLIII.

Of B U S T A R D S.

THE bustard is a most noble fowl, and though at present it is wild, and found only upon large heaths or plains, it may certainly be bred tame
about

about the farm, with less trouble than the common turkey. Their eggs have been often found, and might be set under turkies, to have liberty to run as soon as they are hatched: or else fed like young pheasants, with the addition of rotten eggs boiled hard, and chopped small; but they should be pinioned as soon as they have gathered a little strength, lest they fly away: though I am told, that the cross strain, between the turkey and Virginian bustard, are at liberty to fly and breed in a gentleman's park.

These bustards may be caponized as well as turkies, to make them larger; the best time will be a little after harvest, that the flies may not blow the wounds. The down of a hare, I suppose, is generally known to be excellent for the stopping of blood, and healing any wound among poultry: I have often tried it with success.

Bustards are common in the plains of Norfolk, Cambridgeshire, Salisbury-plain, and upon downs, or in a champaign country; and their eggs may be found in April.

C H A P. XLIV.

Of P E A - F O W L S.

IN the month of April the pea-hen begins to lay; and the young ones are excellent meat. There is hardly any bird in the world so gay in feathers as the pea-cock, nor so compleatly shaped. The feeding of this fowl for the table was of antient date. Varro informs us, that M. Aufidius Lurco, who first began to fat this fowl, made four hundred pounds a year of them. Their flesh has an extraordinary quality in resisting corruption or putrefaction, so that they will keep fresh and sweet a long time after they are killed in the hottest season; and yet their flesh is of as easy digestion as that of a pheasant. Their eggs likewise are of an excellent relish, much preferable to pheasants eggs, or those of the Guinea-hen. There is very little trouble in the keeping of this fowl, and no expence; for they seek their food abroad in the fields, and in the woods.

The

The life of the pea-cock, as the ancients tell us, and particularly Aristotle, is twenty-five years.

There are some with white feathers now in England, but many more in Holland; they indeed are not so beautiful a fowl, but their flesh is preferable to the gay kind.

The pea-hen sits thirty days if the weather be cool; but if it be hot, about twenty-eight. When you set their eggs under a common hen, you must not put more than five, and about four of her own if she is of a large breed. When she has set a week, take away her own eggs, and put four fresh hen eggs under her, which will hatch at the same time with the pea-hen's. Remember to mark the eggs on one side before the hen is set upon them, and to turn them carefully during the time of setting.

When they are hatched, keep them in the house a day or two, and then put them in a pheasant pen, which must be made something larger than ordinary; and take care to keep them from rain till they are three weeks old,
all

all the while feeding them with barley meal a little wet with water, or the meal of other corn, and now and then some chopped leeks, and cheese curds after the whey is well pressed from them. You may likewise give them bread crusts boiled in milk, the milk being first pressed out a little; but these must be given cold. At about a month old you may venture them in the field with the hen, if the land be dry and open to the sun; but let the hen be tied by the leg, so that she cannot range far at first, and that will prevent their running beyond call, and they may more easily be brought home in the evening; but by degrees the hen may have more liberty, and will with her brood return home of herself.

About harvest time you may give the young ones barley or other corn, and put them to roost in a house, by no means suffering them to sit upon the ground, lest they get cold; but prepare perches for them, and you may then put them among other pea-fowls.

As for those young ones which the pea-hens hatch and bring up themselves, they run immediately with their dams into the fields, and find their food if they have liberty. But if your pea-hens lay and set in some place appointed for them, it is not thought proper that several hens and their broods should feed together; because those who have the smaller number or the smaller chickens make little account of their own, when they see other hens with more or larger chickens than those of their own breed.

The pea-hen, when she is at liberty, seeks the most private place for her nest, that the cock may not disturb her, who would, if he could find her out, tread her, even when she is setting upon the nest, and thereby destroy the eggs. You must therefore (for that and the following reason) be careful to keep the cock from the hens you shall set, till the chickens are crested on the head; for before that time, if they come in his way, he will chase and often kill them; but they are then safe from any harm from him.

One

One pea-cock will serve seven pea hens, nor should he have less than five, otherwise it is a hazard whether the eggs be prolific, and also whether he does not kill a single hen, or even a couple, by his overlust.

As the hens will sometimes lay or drop their eggs when sitting upon the perches, it is proper they should be no more than four feet from the ground; and that a good quantity of straw be laid under them, to save the eggs.

The most dangerous time in the breeding these fowls, is just when their crests are beginning to shoot from their heads; but that being once past, they are reckoned as safe and secure as the chickens of any other fowl.

Keep not many cocks together, as they will be apt to weaken one another by fighting about the treading time; however, if they are all of one breed, they will live the more quietly together.

If you have a mind to have them breed early, you may give them beans, toasted a little by the fire, about once in four or five days; or let the beans be thoroughly warm, and broken to pieces;
or

or else paste made of bean flour and milk; or barley meal and milk with an egg; or spurry seed; all which will promote their breeding.

C H A P. XLV.

Of P H E A S A N T S.

YOUR breeding stock, the hens at least, should rather be of the last year's hatch than older; for the young ones lay more eggs, and lay earlier, and the earliest broods are the best.

One cock to five hens is the usual allotment; and if you have more of such flocks, they must be kept separately, in different apartments, all the time of treading and laying.

The apartments you keep them in must be yards, out of doors; smaller or greater as you have conveniencies. And they must be extremely well fenced, to keep out vermin of all kinds, cats and dogs; and men, too, who, if they are strangers to the business, will be very troublesome and prejudicial to them, in giving them frequent disturbances.

X

And

And there must be sheds or other shelters for them, to run to in bad weather, or when they are frightened; and places to lay their eggs under, out of the sight of birds of prey, such as kites, crows, and magpies, which will suck them.

In the feeding of them, you must be careful to have clean sweet oats, wheat, and any other grain they like, not at all musty; and their water must be fresh, and neither foetid nor foul. If there are any plants or weeds growing in their inclosures, of such sorts as they will feed on, it is the better; they besides afford shade and shelter to them.

Let them not go where there are wall trees, for they will peck off every bud and leaf as high as they can reach, and leave the walls bare for two feet or more.

If the ground they go on be fresh ground it is a great advantage to them; for then they will find insects to prey upon, toads, and white snails without shells, and such trash, which they in a short time will clear the ground of, and thrive very well.

Their

Their meat should be so given to them as never to be mixed or tainted with their dung.

You are to set their eggs under turkies or hens in safe places, and must take care they have never been kept too long after laying; nor kept in any dirty moist place, hot or chilly, before they are set; but taken out of the nests as soon as they are laid by the pheasants, and laid by safe and clean, on some soft thing which will not bruise them, such as on your basket of corn, or in bran, and turn them sometimes. And when you have a full number, and the turkey or hen is ready, set them under her; and be sure to set a sufficient quantity of them, for as they are a great deal less than the turkey or hen eggs, there should be more in number, and they will be surer of hatching than if there be too few.

If the man or woman takes account, and knows the time they are to hatch, they will then be ready to take care and make proper provision for them.

When the young ones are hatched, (which is some time in May) the tur-

key or hen must then be put into a box about fifty-six inches long, thirteen inches deep, and thirteen wide; with a partition for the turkey or hen twenty inches from one end, divided from the other part of the box by palisades three or four inches asunder, for the going out of the young pheasants to feed. That part of the box where the pheasant poults are to feed must be only covered with a net, to keep the sparrows and other birds from eating up their meat. The turkey or hen must have her meat within her reach, and water too. In this box confine your pheasants for ten days, giving them during that time the following food: collected from the woods, or from the sunny sides of ant-hills in the pasture grounds, the black horse emmets eggs, or some of the red emmets eggs; but the black-horse emmet eggs are the best, provided the emmets themselves are killed, for they will sting the young pheasants, and make them neglect their meat till they starve. The way of killing these is, to put earth and eggs and emmets all together in a barrel, so that the barrel
be

be not above half or three quarters full; then light some brimstone rags and put into the vessel, and cover it close up, now and then shaking it, while the smother of the brimstone remains; and when this is over, you may put some of the same rags with brimstone a second time into the vessel, that the live emmets may be destroyed, or so much weakened that you may easily kill them, or separate them from the eggs. When you have your emmetseggsthusprepared, and the emmets killed, you may pick them clean from the earth, and throw them into the feeding part of the box a few at a time, repeating it every half hour. But if you feed them with the red emmetseggs, which you may do the first three or four days after hatching, you need not kill the emmets, for they will do the pheasant poults no harm. But their eggs are very small, and it is troublesome to get enough of them; besides these emmets eggs, they must have, for the first six days, while they are in the box, a paste made for them of barley flour beat up with an egg, shell and all, without water or any other liquor

to it. It must be of such consistence that you may rub it between your fingers into small pellets, as big and of the shape of the black ants eggs; but make not these pellets but just while you are feeding them; and when you find they will eat no more, fling them some emmets eggs, which will create in them a fresh appetite. During the first six days give them some milk in a shallow tin pan, without any water at all, taking care that the milk does not turn sour. About the seventh day give them milk and water mixed in equal quantities, and then make their paste of milk and barley flour, with some fine powder of egg shells in it, but none of the egg itself. About the tenth day remove them out of the box, and set the hen under a coop upon a green plat, making a fence round the coop about five foot clear of it, and about two foot high; this may be done with boards or wires, as you please. This fence is to keep them from wandering too far from the hen, before they are strong enough to struggle with the weeds, or other inconveniencies which they

they will be apt to meet with in their progress. And now bring them to drink all water, and make their paste of barley meal, water, and eggs shells powdered, not forgetting to give them emmets eggs always after this feeding.

After their confinement in this pen upon the grass-plat for a week, that is, when they are about seventeen days old, remove them upon a fresh green-plat, and give them liberty to run or fly where they please till Michaelmas. But they will not leave the hen, unless frightened out of their knowledge by dogs, &c. and then will soon be brought together by the call of the hen, or whistle, which you may use them to when you feed them. And now you may omit the trouble of killing or weakening the emmets, the pheasants being by this time a match for them; but give it not over at once, but bring them to struggle with these insects by degrees, and continue feeding them as before, till there is new corn, and then give them a little in the ear, and afterwards some pease.

One thing must be observed, which is, to set your boxes upon dry ground;
and

and as they should not be under a north wall, which has but little sun, so neither should they be against a southerly wall, which has too much. In a hot day, when the sun shone strong, I have been surprized to see some lusty healthful broods all killed by it in half an hour's time: choose therefore a west wall for that purpose; or if it be against no wall, let something be done to screen it on the sunny side: some shrubby bushy things to run under, when they begin to ramble a little from the hen, do well.

You may wonder to hear toads mentioned for food for them, but you will find, that though they cannot deal with great ones, neither do they mind them soon after their transformations from tadpoles, yet when the toads are of such a size as they can but just swallow, they will eat them greedily; and I have found them to thrive very much with the help of them for variety. Enquiring of one who bred pheasants for the court, he told me it was a thing well known.

Frogs

Frogs or neuts, which ducks are so fond of, they will not touch; nor will ducks eat toads.

The last year's pheasants, after laying time, are usually got in condition for the spit. Such as you keep for your wild stock, to breed in the woods, should not be turned out till winter is over; else they will ramble away, and the foxes and gunners will have them. And as their wings are not to be cut, you must cover their apartments with some cheap nets.

For a wild stock the common colour is best; any white marks only expose them to the sight of their enemies. The quite white all over are visibly less and tenderer; when they are only pied, such as gentlemen keep for pleasure, there appears no difference in their nature.

Their wings, as they begin to fly, must be kept clipping, unless you design to let them immediately go loose, to stock your woods or neighbouring covers with game.

A few broods of pheasants are easily bred, but when you attempt at great numbers you will find many difficulties

ties and disappointments. You will hardly be able to find ants eggs enough; and having recourse to other food, many of the tender young will die, and the toil and business will be more than the profit or pleasure will answer.

To make your breeding pheasants lay early, begin in March to feed them with paste made of barley meal, eggs with the shells well beaten, and water; and keep their eggs in bran.

If the month of July should happen to be wet, take care to house your pheasant poults every night, about an hour before sun set; and let them out again early in the morning. And as French furze is the best shelter for them, it would not be amiss to plant or sow some in their inclosures.

About the end of August your early broods of pheasants (and partridges) will be strong enough to pinion, which will secure them effectually; and the method of doing it is as follows: pick the feathers clean all round the first joint of one wing, and then take a strong thread and knit hard enough round the place, a little below the joint,
to

to stop the bleeding when you cut off the pinion, which must be done with a very sharp knife. When the operation is over, turn them loose; but watch them for an hour, to observe whether they do not bleed, which if they should happen to do, fear the wound with a red hot tobacco pipe. The late broods must not be pinioned till September, as the birds ought to be strong when that operation is performed upon them.

Partridges are bred by the same method as pheasants.

Fawns are dropt in the month of May, and may easily be brought up, by giving them new milk three or four times a day for a fortnight; after which time they will eat almost any thing. And if they are fed with oats about Michaelmas for three weeks, or at any time afterwards, if you design to kill them, will grow very fast, and pay very well for their keeping.

C H A P. XLVI.

Of F I S H P O N D S.

FISH ponds are not only a thing of convenience to great families, but may be made a very profitable article with the farmer, under due management. Watry and boggy lands are often fit for no other use, and these are then a great improvement on them.

Ponds made in dry grounds, in the flat bottoms between the hills, will not only supply the cattle with water, but likewise produce such a considerable profit, by the fish that may be bred in them, as very few imagine; and without any labour or expence.

How to make Ponds or Canals to breed and feed
F I S H.

It is best to cut the ponds and canals long and narrow, whether they be for breeding or feeding, when by their situation, or any other impediment, carts cannot conveniently come up to take the mud; that when they want cleaning, it may be thrown out at one tofs
by

by the labourers, for if it require two tosses, that will make the expence double.

The sides of a breeding pond or canal must be sloped, and made very shallow, which will be of great service to the spawn, and need not be boarded. The bottom may be made about five feet deep; and it will contribute much to the growth of the fish, and prevent the ponds or canals from being robbed, if you cut a channel about five feet deep through the middle of them, lengthways, which will make this part of the bottom about ten feet deep in water. And here the large fish will like to shelter themselves; for it is a certain rule, that all fish, in proportion to their bigness, will chuse to lie in the shallowest or deepest waters, and without such depth the large ones will not thrive. They will besides have the advantage of more room in frosty weather; and in the warmer season it will be impossible to draw such ponds by night, without the hazard of mens lives, if they were to go into them.

Y

The

The head of the pond must be placed at the lowest part of the ground, and the trench of the floodgate or sluice must have a good fall, that it may not be too long in emptying. The best way of making the head is, by driving three or four rows of stakes about six feet long, and about four feet distance from one another, the whole length of the pond head; the first row of these is to be driven in four feet deep, that they may be very firm and secure; and if the bottom be not good, but of a loose sand, some lime is to be added, which together will harden into a sort of stone. The earth dug out of the pond is to be laid between the stakes, and rammed hard down. Other rows of stakes must be added behind and over these, and the spaces filled up till the whole is as high and as thick as is necessary. The face of it must be made even and slanting, and there must be a wash left, to carry off the superfluous water in floods.

The sides of a feeding pond or canal must be cut downright, and fenced up with plank, and be at least two feet deep,

deep, to prevent the fish effectually from breeding; and the bottom about five feet; and there must be a channel cut through the middle, and every other particular the same as for a breeding pond.

C H A P. XLVII.

Of Storing Fish Ponds, and ordering the Fish.

THE month of February is the best time of the year to stock or store a fish pond. Be careful to put in the smallest fish you can get, and rather the spawn of one year than two, for the younger they are when they change the water the better they will thrive; it having been experienced, that a fish put in at three years old, will not at six years be near so large, as a store fish at one year old, put in at the same time, will be at four years old.

You may transport fish in April from one pond to another, if that work was not done in February. When you remove them from one place to another,

let it be in the mornings and evenings, the weather being calm, for the wind will kill them as well as the hot sun. The way of carrying them is, to lay your carp, tench, or jacks upon clean dry wheat straw.

Some chuse to store their ponds in September, which may do well enough, provided they take only the young fry of the same year.

The feeding of the fish in ponds being of great advantage to them, as well as an agreeable amusement to the owner, I would therefore advise him to pitch upon a particular place, and every day about the same hour, and at the same place, to throw what he has to give them into the ponds, whistling very loud, or making any other noise that may be distinctly heard, just before he flings it in; but he must observe, whatever call he pitches upon, always to make use of the same at feeding times.

In breeding ponds there will be this convenience, among many others, from thus feeding the fish, that the small as well

well as the large ones will come to the feeding place at the feeding times, and may easily be taken with a net, and removed to other ponds, without the trouble of laying them dry.

It is necessary every year, as they thrive best when put in young, to discharge the breeding ponds of smaller fish, to store other ponds with; and in feeding ponds, all the fish should be kept as nearly as may be of a size, for the larger and the smaller never all thrive well together.

Trouts and bream will thrive very well with carp and tench; and if you have a running water you may also put in some cray fish.

Jacks or pike, eels, perch and flounders may be put together in the same pond, and cray fish also. When these fish are together, they should have roach and dace for their support, and some water weeds should be planted for their shelter and nourishment; for where there are water weeds there will also be insects, which help to feed the fish. They will likewise feed very greedily

upon the entrails of fowls or rabbits, provided they are fresh when thrown into the ponds, for they will not touch them if they are stale.

Flounders will both thrive and breed in any pond, but especially in a clay pond, and will be much larger than in rivers.

Jacks, perch, carps, and tench, will feed and fatten if fed with grains; but carps especially thrive extremely, if they are fed with any sort of grain, or raisings of bread; and in some places they fat them with sheeps, hogs, or oxen's blood.

The trout is commonly fed with paste made of wheat flour and water.

If April proves very warm carps will spawn, and the females will sicken after spawning, and will be very unwholesome, and unfit for eating till five or six weeks after.

Eels should not be put in the same pond with carps, as they are great devourers, especially of the spawn of the said fish.

In the spring season, when frogs and toads begin to appear, suffer as few as possible

possible in your carp ponds, and destroy them effectually before they spawn; for supposing they do no other mischief, they certainly rob the carps of great part of their food.

Hérons, otters, water-rats, &c. are all great destroyers of fish, and the ponds should be kept as clean of them as possible; but the greatest of all destruction in fish ponds is occasioned by frosts. To remedy this, some propose to break the ice and lay in pipes, straw, and other things, to give air to the fish, but all these fail when the ponds are foul; but when they are clean the fish seldom suffer any harm, be the frost ever so long, and that, though no holes be broken in the ice. The stench of the foul water is therefore more likely to be the cause of the death of the fish than the want of air. The cleaning of ponds frequently is of great use, as well on this as many other occasions; and it is done at no expence, because the mud, serving as manure to the lands, more than pays the expence of taking it out.

As

As water rats begin to breed in April, and will in a short time, if not destroyed, multiply so considerably that they may devour a great part of your young fish; the best way to destroy them is, to make eight or ten paper crackers, and tie them to a quick match three or four inches asunder, and with a willow twig put them into the holes, and then with a lighted match and a few dogs begin the attack, by setting fire to the quick match, which will let off the crackers, and frighten the rats out of their holes, which the dogs will then destroy, or give them such an alarm, as will drive them to some other quarter.

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